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Original Articles.

CONSERVATIVE PERINEAL PROSTATECTOMY.

A PRESENTATION OF NEW INSTRUMENTS AND TECHNIC.*

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BALTIMORE.

The literature of the prostate and its operative treatment has become so vast that I will not attempt to discuss the many valuable articles which bear on this subject, but will simply present a résumé of my own work and the problems which have presented themselves.

My first prostatectomy[1] was in 1898, a patient on whom a suprapubic opening had been made for drainage. At this operation a tremendous intravesical outgrowth of the middle lobe was found, and as there was very little enlargement of the lateral lobes, I enucleated the mass through the suprapubic wound, with the assistance of a finger in the rectum (Fig. 1), a method which has also been employed by Guiteras, and described[2] by him in 1900.

The next three cases presented no median enlargements, the hypertrophy being confined to the lateral lobes. Following the advice of Alexander, I used the combined method, removing the lobes through the perineal wound with the assistance of a suprapubic incision. Although the operation was tedious and extensive, these patients did well, and in a paper on the subject I said that Alexander's was the operation of choice, except for middle lobe cases.

My next four cases were characterized by considerable middle lobe enlargements, and I therefore used the suprapubic route, and was surprised to find that with the assistance of the finger in the rectum I could easily enucleate very large lateral lobes in one piece with the median without destroying the urethra. The operation was also very much quicker—it frequently being possible to complete the enucleation in 5 to 6 minutes, whereas the combined operation would frequently take nearly an hour.

The principal objection to the perineal route was the necessity of the suprapubic incision to push the prostate down into the perineum where it could be enucleated, and I then thought of having an instrument made with two blades, which could be inserted closed through a perineal urethrotomy, separated when in the bladder, and then used as a tractor to drag the prostate toward the perineum. This was in 1899, but I never had the instrument constructed, but continued to do all prostatectomies suprapubically. The results obtained were excellent, the greatest objection being the considerable hemorrhage following the operation, the great duration of the convalescence, and the occasional development of suprapubic hernia afterward.

In 1899 several patients came to me who were so old and so weak that I was afraid to even administer a general anesthetic, much less to do so severe an operation as a suprapubic prostatectomy. One patient, being unable to use a catheter, caused me to purchase a Bottini incisor, and the results which I obtained on extremely old and feeble men, under local cocain anesthesia, were indeed so marvelous that I adopted the Bottini operation as the method of choice in cases past 65 years of age, who were not in a prime surgical condition.[3] Using my instrument with interchangeable blades of different size[4] I was able to operate safely and radically on prostates of any size. I found it possible also to successfully attack large middle lobes by making an oblique incision with the cautery blade on each side of the pedicle, thus dropping it back out of the way,[5] where it would afterward atrophy. In two years I operated thus on 40 cases, with two deaths, only one of which was due to the operation. Of these 15 were over 70 and three over 80, with no deaths, and with cures in all these cases but one.

I feel sure that many of these patients would have succumbed had a suprapubic or a combined prostatectomy under general anesthesia been done with the subsequent prolonged recumbent posture. The use of cocain, the little shock and hemorrhage produced by the Bottini, and the rapidity of the convalescence—out of bed on the second or third day—were the factors which contributed to save them. Since then I have used the cautery incisions on many more cases, some just as old and as desperate as those described above, with similar gratifying results. But while I have demonstrated to my own satisfaction that the Bottini operation is the only safe and justifiable radical procedure in very feeble subjects, I have never ceased to make use of prostatectomy when fit subjects presented themselves.

The publications of Syms, Murphy, Ferguson, Bryson and others within the past two years caused me to turn my attention again to the perineal route. In studying the methods that have been proposed, the intravesical balloon, which Syms used to draw the prostate into the perineal wound, seemed to me to be much better suited to overcome the great objection to perineal prostatectomy, the depth of the wound with the consequent difficulty of reaching the lobes to enucleate them, than Murphy's hooks, Ferguson's capsular retractors or Bryson's suprapubic prevesical incision.

* Read before the American Association of Genito-urinary Surgeons, Washington, D. C., June 12, 1903.

1. Report in a paper before the Medical and Chirurgical Faculty of Maryland, September, 1898.
2. Guiteras: New York Medical Journal, Dec. 8, 1900.
3. Young: Trans. Southern Surg. and Gynecol. Assn., 1901.
4. THE JOURNAL A. M. A., Jan. 11, 1902.
5. Monatsberichte für Urologie, January, 1901.

The rubber balloon did not, however, appear to me to be quite perfect in that it did not seem to furnish sufficient strength for the great traction which is necessary, and the fact that Syms[6] had acknowledged that he found a metal instrument devised by Gouley, which was passed like a sound into the bladder, of great assistance in pushing down the prostate, confirmed me in my opinion that while the idea of making traction by means of an instrument which could be introduced into the bladder through a perineal urethrotomy wound was correct, the method adopted by Syms—the rubber balloon and tube—could be improved on.

I therefore set to work to construct an instrument of metal for this purpose. After several months of experiment, during which I endeavored to discover and correct the faults of each model by operative use, the instrument was completed, as shown in Illustrations 2, 3 and 4. It consists of two fenestrated blades attached to shafts, one of which revolves around the other. When the two handles near the outer end which regulate the rotation are brought together the blades are approximated and in position for insertion into the bladder through the opening in the membranous urethra (Fig. 2). Once introduced above the intravesical limits of the prostatic lobes the blades may be separated by rotating blades away from each other (Fig. 3), when it is ready for whatever traction on its shaft may be necessary to draw the prostate well into the perineal wound. Before discussing the use of this instrument, however, I wish to discuss some problems of technic and conservatism which have been met.

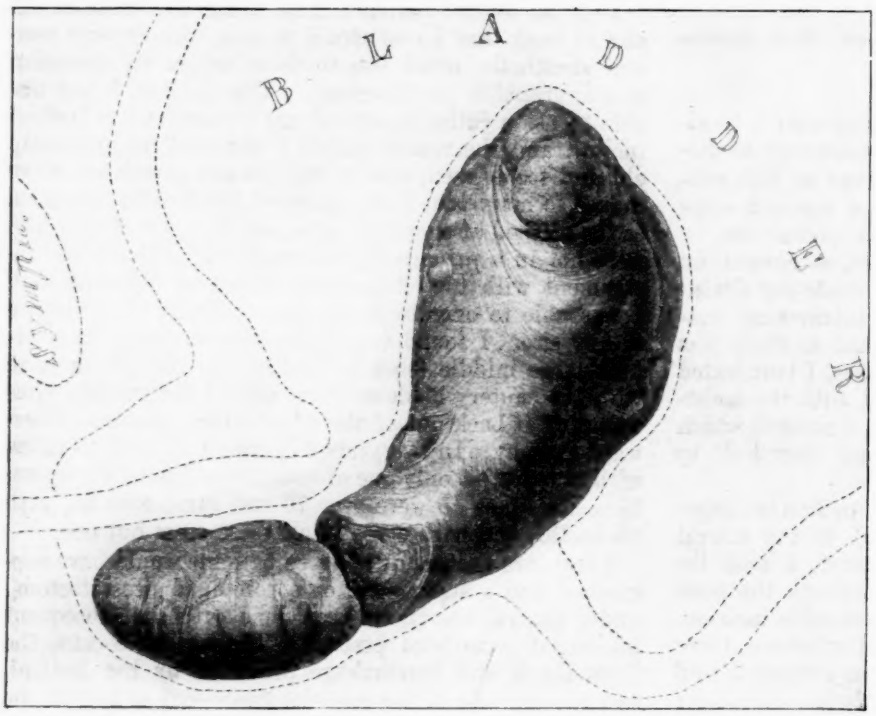

Fig. 1.—A large intravesical median lobe removed by suprapubic route. Actual size.

The Ejaculatory Ducts.—The fact that many of the cases requiring prostatectomy are vigorous men in the fifties, with sexual powers well preserved, renders it important to do nothing to injure their manly vigor.

In a recent report, Petit[7] furnishes the results of a careful study of Albarran's cases of perineal prostatectomy. He was able to follow 6 cases who had had normal sexual powers before the operation. Of these 2, both under 60 years of age, have never been able to have erections since the operation. In 2 cases the erections are much enfeebled; 2 cases are as strong sexually as before operation.

The operation is performed by Albarran without respect to the ejaculatory ducts, the prostatic urethra being opened wide in the median line, and the lobes enucleated through this incision. It would seem that the ejaculatory ducts are almost certain to be injured or removed in this procedure.

Petit mentions the work of other operators and concludes: "It seems to be shown that perineal prostatectomy diminishes if it does not suppress erections in some cases. But it is a curious fact that some cases operated on can still ejaculate." Another evidence of injury done to the ejaculatory ducts is that Petit reports that 12 cases in 30 suffered with epididymitis after the operation.

I know of no other statistics on these points. The three cases on whom I performed perineal prostatectomy by Alexander's method five years ago I have been unable to follow, and the twelve perineal prostatectomies which I have done in the past five months are too recent to draw final deductions from. Although the question needs further study, it is nevertheless evident that due attention should be paid, in performing the operation, to the importance of the prostate as a sexual organ.

In order to determine the relation of the ejaculatory ducts to the urethra and the prostatic lobes, I have made transverse and longitudinal sections in the specimens both of normal and of hypertrophied prostate.

The accompanying illustrations show very graphically the course of the ejaculatory ducts in the normal state (Figs. 5 and 6). As seen here, if we trace them backward from their urethral orifices we find that they rapidly approach the posterior capsule of the prostate; that the tissue separating them from the urethra gradually increases, and that the point of junction of the seminal vesicle and vas is reached considerably in front of the junction of the prostate with the bladder. Stained sections of the posterior portion show a considerable agglomeration of the glandular tissue surrounded by encircling muscular and connective tissue fibers which separate it more or less markedly from the glandular tissue of the adjoining lateral lobes. This mass of glands has been called by Albarran[8] the prespermatic group, and this it is which is most concerned in the production of median lobe enlargements. If this mass of glands (Fig. 5, A) is only slightly hypertrophied a median bar may be produced, which may be continuous with the lateral enlargements on each side, the whole forming a collar around the prostatic orifice. If, however, this group takes on considerable hypertrophy a sessile or

6. Syms: Annals of Surg., April, 1902.
7. Petit: De la Prostatectomie Perineal, Paris, 1902.
8. Albarran and Motz: Annales d. Mal. d. Organes Genito-Ur., July, 1902.

pedunculated intravesical median lobe, sometimes of huge dimensions, results. In these latter varieties another group of glands which lie just beneath the mucosa where the trigone joins the urethra, and which Albarran has called the subcervical group, may take part in the hypertrophy. All these median enlargements grow upward, away from the ejaculatory ducts, from which they are separated by considerable tissue, including their encapsulating fibers.

In the hypertrophied prostate the position of the ejaculatory ducts and vesicles depends considerably on the character, size and disposition of the enlargements. If the hypertrophy is great, and especially if a considerable median lobe is present, the vesical neck is generally found elevated far above the level of the ducts and vesicles, as shown in Figure 7, which is a longitudinal section of a prostate in which the lateral and median lobes are all three greatly hypertrophied. The ducts enter so low down on the posterior surface of the prostate that the median lobe is not in relation to them at all, and is separated from the vesicles by the prostatic capsule. It would, therefore, be easy to enucleate this lobe without injuring the ducts at all if properly done. Note here also the great width of the urethra, the proximity of its floor and the sharp bend which it makes in front of the middle lobe. Cross section A (Fig. 8) is taken where the utricle and one duct enter the urethra; B is taken a little farther back and shows the ducts midway between the posterior capsule and the urethra. Note the inverted Y urethra produced by the verumontanum below and the pressure of the lateral lobes against each other in front, and the slit-like character of the urethra. In C the ducts lie very close to the capsule.

Section D, which has been taken through about the middle of the prostatic mass, shows the junction of the vesicle and vas just outside the prostatic capsule. Note the greater distance of the urethral floor from the capsule. This is shown in still greater amount in C, and the vesicles and ampullæ are here seen to be separated from the median mass by the prostatic capsule. In F, which is taken about 5 mm. in front of the vesical orifice of the prostate, the further elevation of the median lobe is shown. The full extent of the median lobe is shown in the median section (Fig. 7).

Figure 9 is a side view of another specimen in which the vesicles and vasa join the prostate low down on the posterior surface.

In cases of little or no median lobe enlargement the hypertrophied lateral lobes seem also to carry the vesical neck upward and leave the vesicles and vasa behind, so that they are often found entering the capsule well down on its posterior surface, as depicted in Figure 9, the side view of a specimen of considerable hypertrophy of the right lateral lobe. The aponeurosis of Denonvilliers, which is firmly attached to the posterior surface of the seminal vesicles and of the prostate below their entrance, and which binds the two together closely, may be responsible for the upward growth of the hypertrophied prostate and the resultant low insertion of the ducts into the posterior surface.

The results of this study of the course of the ejaculatory ducts may be thus summarized:

In the normal prostate the ejaculatory ducts lie for the most part just beneath the posterior capsule, considerably below the level of the vesical neck, and are separated from it by the prespermatic group of glands.

In the hypertrophied prostate the same statements are true, the only difference being that the ducts enter relatively lower down, and the vesical neck is separated from them by much more tissue, especially if the prespermatic group of glands have taken on growth with the resulting median lobe enlargement, when the vesical orifice is lifted high up above the level of the ducts. The prostatic tissue immediately adjacent to the ducts is beneath the urethra and plays no part in the obstruction, which is caused entirely by the lateral and median enlargements, both of which are well above the ejaculatory ducts.

The measures which I have adopted to preserve the integrity of the ejaculatory ducts and sexual puissance of the patient I will take up a little later.

Fig. 2.—Prostatic tractor closed and ready for introduction.

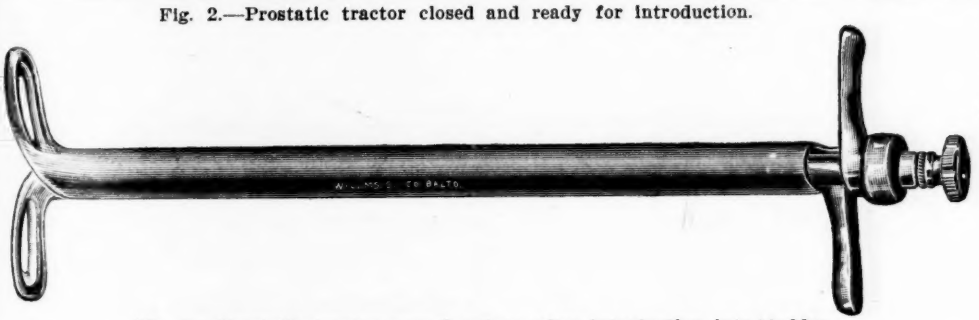

Fig. 3.—Prostatic tractor opened out as after introduction into bladder.

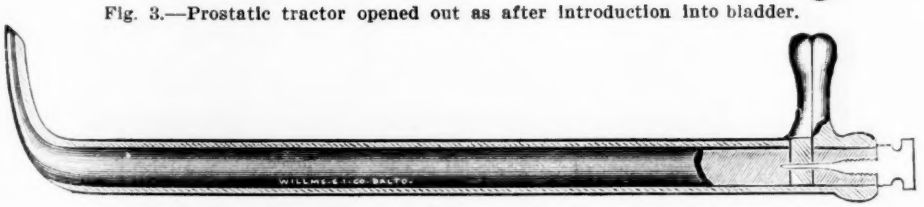

Fig. 4.—Sectional view, showing mechanism by which instrument can be taken apart.

TECHNIC OF THE OPERATION.

Position of the Patient.—The exaggerated dorsal lithotomy position is the most satisfactory. The perineal board of the Halsted table is admirably suited for this purpose. The perineum should be so elevated that it is almost parallel with the floor. Before placing the patient on the table a grooved sound, to be used as a guide for subsequent urethrotomy, should be placed in the urethra, as it is difficult to introduce it after the thighs have been flexed.

Cutaneous Incision.—If the patient is thin, and the prostate apparently close to the perineum, I use a

median perineal incision. This need not be more than 6 cm. long, the posterior limit being near the anus. The dissection is carried through the fat and superficial fascia when the wound is enlarged by lateral traction and the central tendon of the perineum, connecting with the bulb in front and the levator ani muscles behind, exposed. If the patient is a large man with thick perineal muscles, and the prostate is found, on

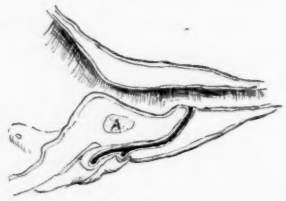

Fig. 5.—Longitudinal section of normal prostate. A, Prespermatic group of glands.

rectal examination, to be situated deep, or the perirectal fat is abundant, I generally use an inverted V-shaped incision, as shown in Figure 10. The apex of this incision is taken just over the posterior part of the bulb, and the two branches are each 5 cm. long, the posterior limits being about midway between the anus and ischial tuberosities.

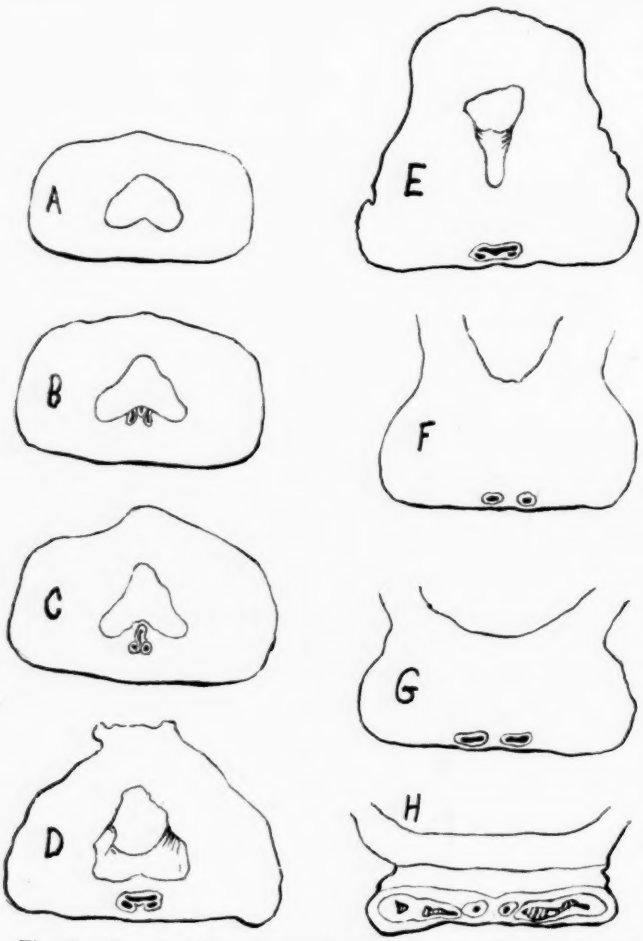

Fig. 6.—Cross section of normal prostate. A, At a point just in front of opening of ducts and utricle; B, at opening of utricle and ducts; C and D, 5-10 mm. back; E, at entrance into bladder; G, at the junction of seminal vesicles and ampullæ; H, the seminal vesicles and ampullæ separated.

I used to employ the inverted Y-shaped incision, but I have found the median portion along the bulbous urethra entirely unnecessary, as the field of operation is far behind that region. Zuckerkandl's crescentic incision gives, I think, an unnecessarily large wound.

The strenuous objections which have been urged by some to any other than a median incision, I think only apply when the lateral incisions are carried through the muscle. This I never do, and the inverted V incision gives me much more room, and allows the rectum to be retracted backward so much better that I think it is often preferable to a median perineal incision.

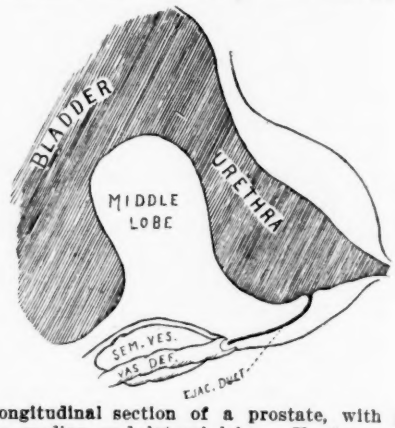

Fig. 7.—Longitudinal section of a prostate, with great hypertrophy of the median and lateral lobes. Urethra very wide and thin. Note low insection of ducts.

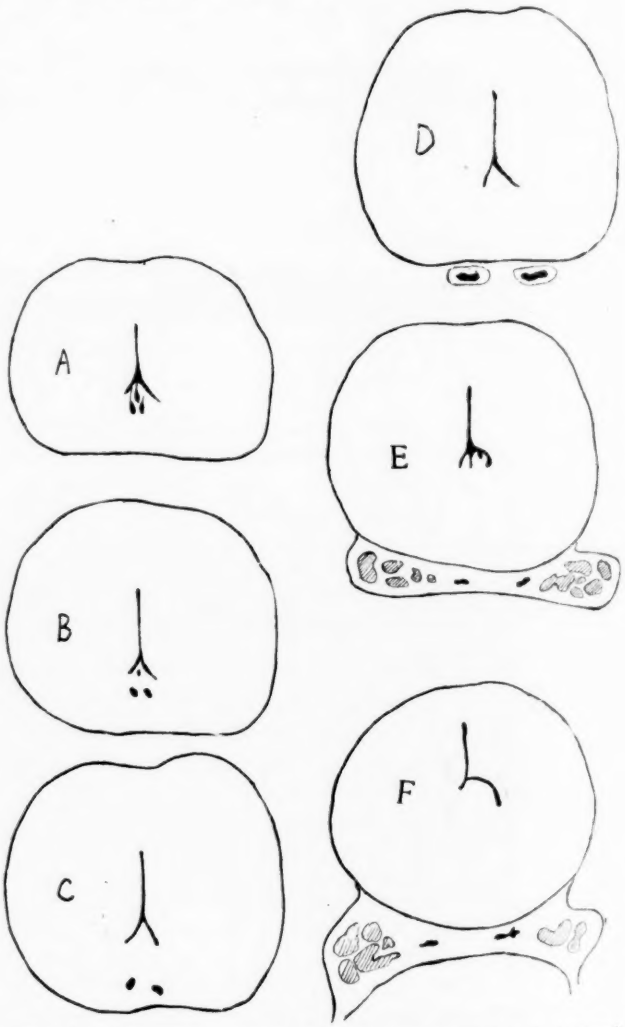

Fig. 8.—Six cross sections of the same prostate at different levels, as in Figure 6. The ducts rapidly approach the posterior capsule and in D are already outside of it. A shows the beginning of the median lobe, and F just before the entrance of the urethra into the bladder.

Exposure of the Membranous Urethra.—After the superficial muscles have been exposed by blunt dissec-

tion, as shown in Figure 11, the central tendon is caught by a clamp near the bulb and divided. This at once frees the sphincter and the levator ani from their anterior attachment, and exposes the rectum drawn forward by the recto-urethralis muscle, as seen in Figure 12. The recto-urethralis is a short muscle with rather indefi-

Figure 9.

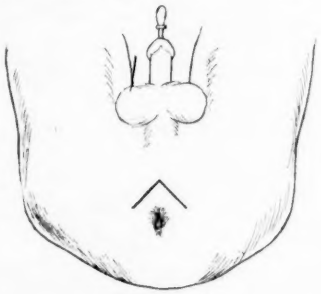

Figure 10.

Fig. 9.—Side view of hypertrophied prostate, showing low entrance of ducts on posterior surface.

Fig. 10.—The inverted V cutaneous incision.

nite margins, which, as its name indicates, joins the rectum with the urethra. It is apparently responsible for the acute anterior flexure of the rectum which lies so close to the apex of the prostate and membranous urethra and which one finds in rectal examinations. In

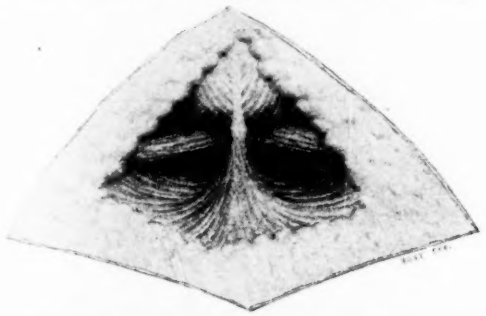

Fig. 11.—Exposure of bulb, central tendon and levatores ani.

order to reach the membranous urethra and the apex of the prostate, it is necessary to divide this muscle, as shown in Figure 13. This at once exposes the "*espace decollable retroprostatique*" which has been so well de-

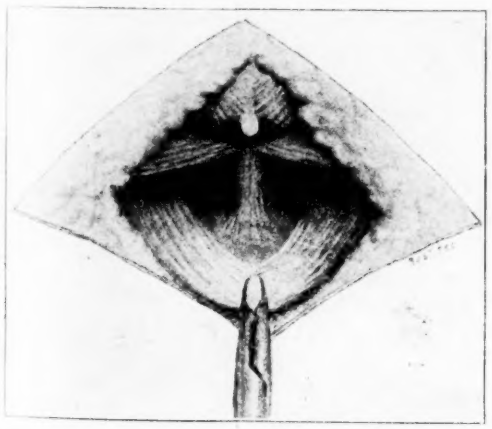

Fig. 12.—After division of central tendon. Exposure of recto-urethralis muscle.

scribed by Proust,[9] who has shown that unless this muscle is divided the operator is apt to tear into the rectum, which is drawn forward by it. Division of this muscle allows the rectum to drop back, and leads at once into the space surrounding the posterior surface of the prostate.

Urethrotomy and Insertion of Tractor.—After the membranous urethra has been exposed by division of the recto-urethralis muscle a retractor is inserted and the apex of the prostate brought into view, as shown in

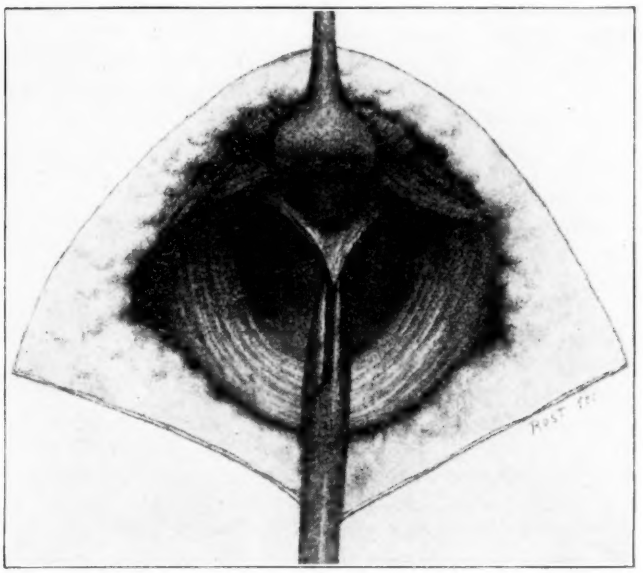

Fig. 13.—After division of recto-urethralis, exposure of membranous urethra.

Figure 14. The membranous urethra is then opened on the sound, which was inserted in the urethra before the patient was put in the lithotomy position, and the edges of the urethral wound caught up by silk sutures or by Kocher clamps. A sound of moderate size is then

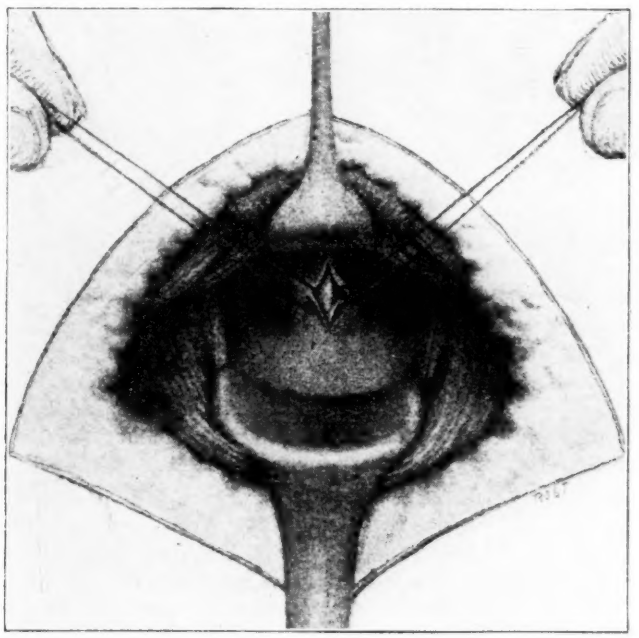

Fig. 14.—Opening of urethra on sound, preparatory to introduction of tractor.

passed through the incision into the prostatic urethra and bladder, and the sphincters dilated by a to-and-fro motion of this instrument.

The prostatic tractor, closed (Fig. 2), is then passed into the bladder, the edges of the urethral wound being held open by the silk sutures to facilitate its introduc-

9. Proust: **Technique de l'incision prerectale, appliquée a la Chirurgie genitale chez l'homme, Paris, Thesis, 1902. Centralbl. Harn. u. Sex. Org., 1903.**

tion. As a matter of fact, I have never experienced any difficulty in introducing the instrument, the caliber of which is only about No. 30 F.

As soon as the beak is free in the vesical cavity the thumb screw which fixes the blades in position is loosened, the blades rotated 180 degrees by means of the external blades, and then fixed by tightening the thumb screw.

The instrument is now ready for whatever traction may be necessary to draw the prostate well down into the perineal wound, as shown in Figure 15. Figure 16 shows the position of the blades in the interior of the bladder, each blade projecting laterally so as to engage the intravesical surface of the lateral lobe.

Exposure of Prostate and Incision of Capsule.—Lateral retractors are so placed that with the posterior

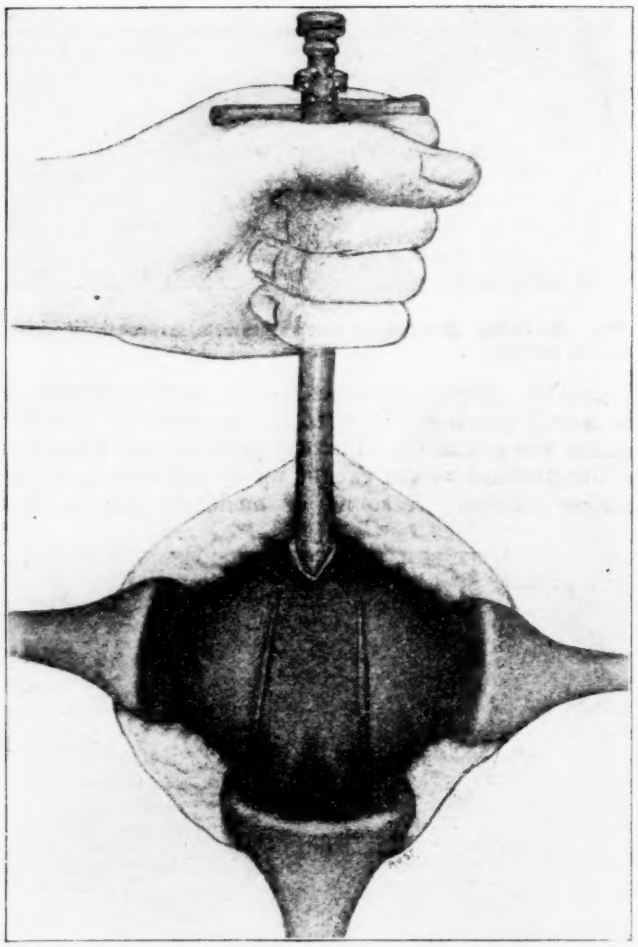

Fig. 15.—Tractor introduced; blades separated; traction made, exposing posterior surface of prostate. Incisions in capsule on each side of ejaculatory ducts.

retractor drawing the rectum backward, and the prostatic tractor drawing the gland outward, a splendid exposure of the entire posterior surface of the prostate is obtained. These retractors should not be too deep. An incision is then made on each side of the median line for almost the entire length of the posterior surface of the prostate and about 1 cm. deep. The two lines are convergent, as shown in Figure 15, being about 1.8 cm. behind and 1.5 cm. apart in front. The bridge of tissue which lies between them contains the ejaculatory ducts, and its preservation is of utmost importance, if the integrity of these structures is to be left uninjured. It is for this purpose that I make the initial capsular incision 1 cm. deep on each side, as these define at once, and correctly, the width of the "ejaculatory bridge," and prevent its being torn, as might happen if we depend on blunt dissection. Another advantage is that these incisions bring us at once to the side of the urethra where the internal enucleation (urethra from inner surface of lobe) can be easily accomplished later on.[10]

Enucleation of Lateral Lobes.—We are now ready to begin the external enucleation, the separation of the capsule from the lateral lobes, which is best done with the blunt dissector, as shown in Figure 17. Capsules are of varying thickness, and contain several layers of

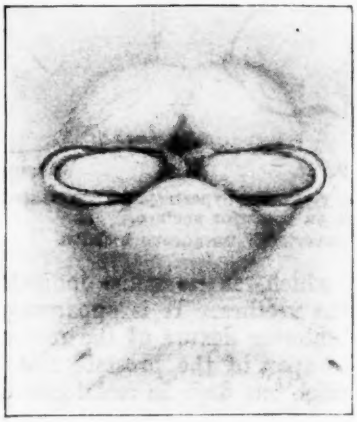

Fig. 16.—Showing position of blades in interior of bladder in case of median and bilateral hypertrophy.

cleavage. It is important to start the separation in the right layer, not too deep as you may be led into the substance of the lobe, and not so superficially as to be out-

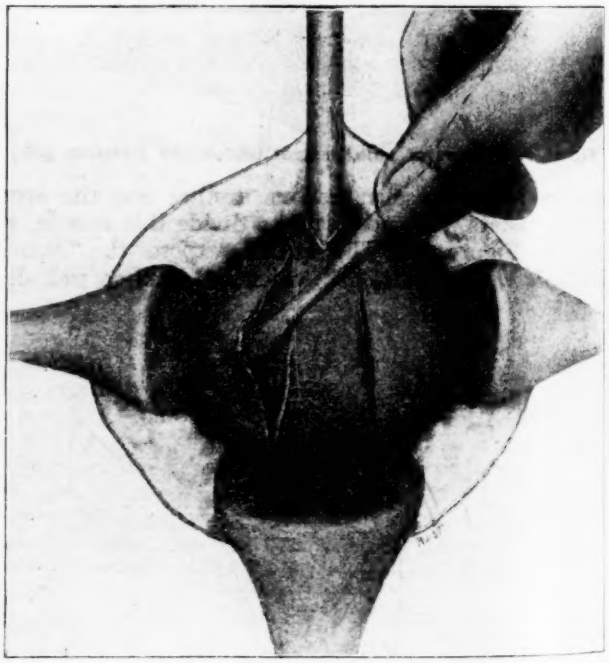

Fig. 17.—External enucleation begun.

side of most of the capsule. After the stripping up process has been started correctly it is easily continued by blunt dissectors until first the lateral and then the

10. Various capsular incisions have been proposed, e. g., Alexander used a transverse incision, Ferguson an elliptical, Albarran, Bryson and others a median, etc. Murphy advised parallel longitudinal incisions similar to those I use, but with the idea of avoiding the vessels in the median line and not, I believe, from any desire to save the ejaculatory ducts, for he afterward deliberately cut away the bridge which contains them, with the idea of preventing muco-cutaneous fistulæ: Discussion on prostatectomy, American Medical Association, Saratoga, 1902, THE JOURNAL A. M. A., Oct. 25, 1902.

anterior surface of the lateral lobes have been freed from the capsule. When the deeper portion is reached I use a special long curved blunt dissector.

The internal enucleation should be taken up after the external, as it is a much more delicate procedure and often requires considerable care to prevent tearing into the urethra. As remarked above, the primary incision is made with the scalpel until the level of the urethra is reached, after which the blunt dissector is used. During this procedure the shaft of the prostatic tractor is grasped firmly in the operator's left hand (Figs 15, 17 *et seq.*) and serves not only to draw the prostate so well down into the skin wound that every procedure is done in plain view, but to steady the prostate and mark out the course of the urethra so that it can be avoided.

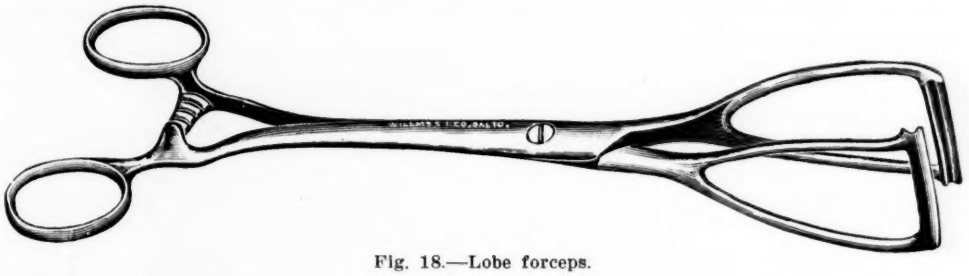

Fig. 18.—Lobe forceps.

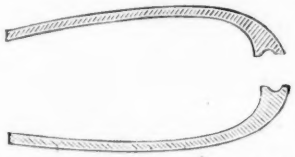

Fig. 19.—Sectional view of blades.

When the enucleation of a lateral lobe has progressed fairly well on each side, it is advantageous to have traction made on the lobe itself in order to facilitate the separation of the deeper portion. I tried various instruments—vulsellum forceps, pedicle forceps and hook retractors—for this purpose, but I found that all toothed instruments quickly tore through the friable tissue whenever traction sufficient to be of any assistance in drawing out the lobe was used. It, therefore, seemed advisable to have fenestrated forceps which could grasp the entire lobe, and present such broad surfaces to it that no cutting or tearing of the capsule would be done. I accordingly designed the instrument shown in Figure 18. As seen in Figure 20, the two blades grasped the prostate with broad surfaces, so shaped as to hold, but not to cut, the lobe when the pressure is applied (Fig. 19). These forceps I have now used in four cases, and have found them of great assistance.* The lobes have come out in one piece, and I have been able to apply very great traction without tearing them, thus greatly facilitating the deeper enucleation (see Fig. 20). Nearly all of the enucleation is done with the blunt dissector, but when the intravesical portion of the lateral lobe is reached I generally use the finger so as to avoid tearing through the thin mucous membrane covering it. The intravesical blade of the prostatic tractor, which

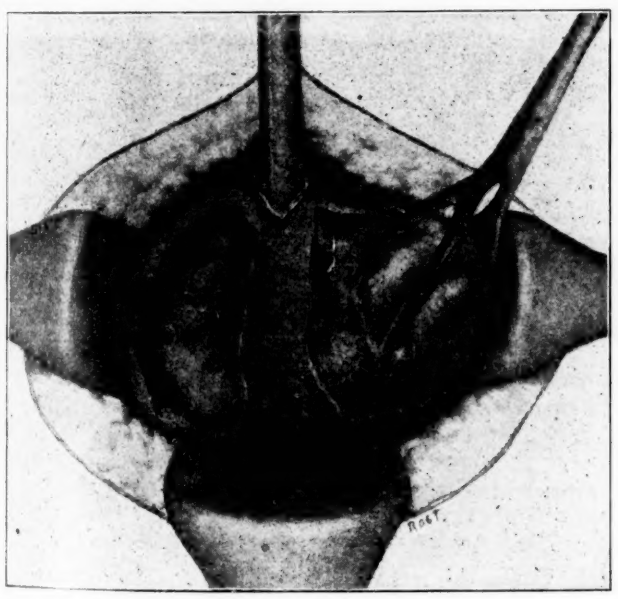

Fig. 20.—Enucleation of lobes. Forceps in position.

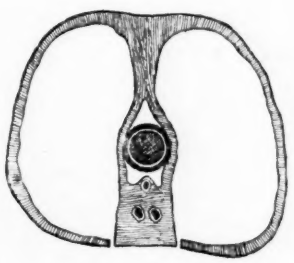

Figure 21.

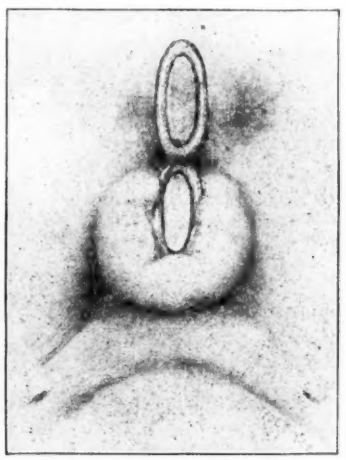

Figure 22.

Fig. 21.—Schematic cross section after enucleation of lateral lobes, showing ducts and median bridge of tissue. Instrument in urethra.

Fig. 22.—The blade rotated so as to engage middle lobe.

can be distinctly palpated through the mucous membrane by the enucleating finger, serves to direct the separation of the deeper portion, and warns against tearing into the bladder. It also shows when some of the lobe has been left behind. The conditions present after the enucleating of the two lateral lobes, as described above, are shown in Figure 21. As shown in this schematic cross section, the urethra, which contains the tractor, is left intact. Beneath is the bridge of tissue surrounding the ejaculatory ducts. The empty capsule is shown on each side.

Enucleation of the Middle Lobe.—After the lateral lobes have been shelled out, attention should be directed to the median portion of the prostate. If the previous cystoscopic examination has demonstrated a thin transverse bar, it would often be found that removal of the lateral lobes has allowed it to collapse, showing that it was really an artefact, a fold of mucous membrane

* I have since used them in many more cases, and found it desirable to have a smaller size made for small lobes.

hooked up by the lateral outgrowths, and not containing any hypertrophied tissue.

On the other hand, there is most often a more or less extensive hypertrophy of the prespermatic group of glands, and the mass can be easily seen, or felt by the finger in one of the intracapsular cavities (Fig. 23). Further examination will generally reveal a fair amount of tissue between the median lobe and the region of the ejaculatory ducts, which, as I have previously pointed out, lie well forward on the posterior surface, and close to the capsule. The median enlargement is generally more or less definitely attached to one or both of the lateral lobes and is oftentimes already so loosened from its encapsulations that there is no difficulty in shelling it out through one of the lateral cavities—without disturbing the integrity of the ejaculatory ducts and prostatic tissue immediately surrounding them.

The prostatic tractor may be used with great advantage in removing a median lobe, and the technic which I generally employ to draw it down into one of the lateral cavities where it can be enucleated, is as follows:

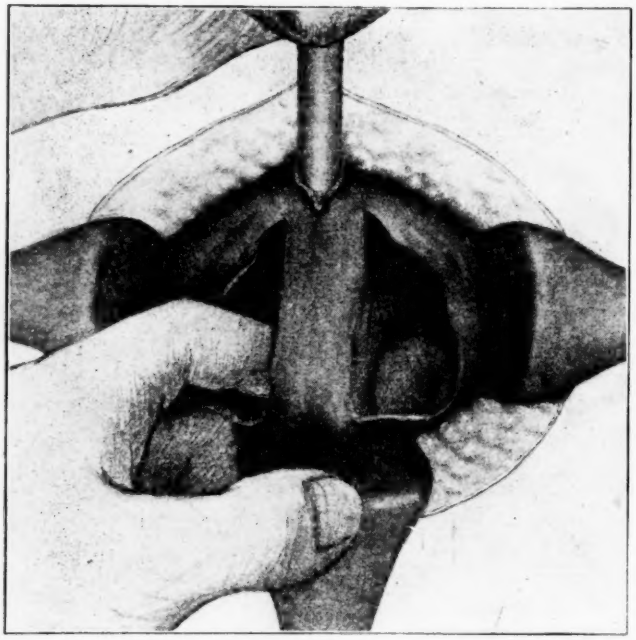

Fig. 23.—Showing technic of delivery of middle lobe into cavity of left lateral lobe.

Push the tractor backward until free in the bladder cavity, depress the handle of the instrument so that the shaft can lie on the top of the middle lobe, and then rotate the instrument 90 degrees, so that one of the blades projects downward behind it. Outward traction should then engage the lobe, as shown in Figure 22, and draw it down where it can be seen by the operator. To get it into one lateral intracapsular cavity (say the left) two maneuvers are of help: Pushing against it with the index finger of the left hand, which has been inserted in the right intracapsular cavity, as seen in Figure 23, and rotation of the blade engaging the middle lobe in the same direction, making traction on it all the while.

After the median lobe has presented in the left intracapsular cavity, the operator turns the tractor over to an assistant who continues the traction, while he grasps the lobe with the forceps described above and then rapidly enucleates it.

The above technic, which I am afraid I have described at too great length, has enabled me to enucleate several median hypertrophies without tearing the mucous membrane covering them.

In two instances I have found the median mass to be directly continuous with the left lateral lobe, and when the deeper portion of that lobe was being freed, that the median lobe was disposed to come with it. I have then rotated my tractor so as to engage the median,

Figure 24.

Figure 25.

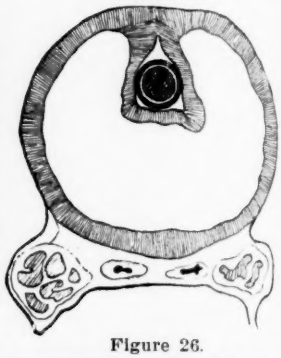

Figure 26.

Fig. 24.—Photograph of prostate in which the left and median lobes were enucleated in one piece. Exact size.

Fig. 25.—Longitudinal section after enucleation of median lobe through a lateral cavity.

Fig. 26.—Cross section at level of cavity left by median lobe.

and have readily drawn it down and enucleated the two in one piece, as shown in Figure 24. In another case a collar-like growth, consisting of a median bar and two lateral masses, was easily enucleated in entirety through the left intracapsular cavity without tearing the ducts

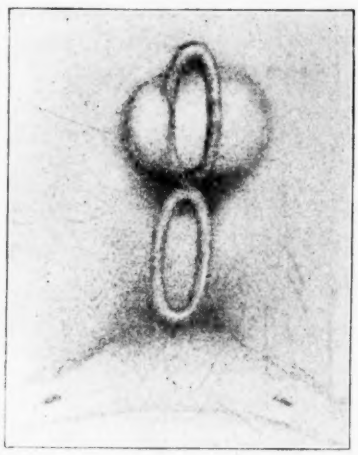

Fig. 27.—Blade engaging anterior lobe.

beneath or the mucous membrane of the urethra or bladder.

I have not as yet had a case with a very large median lobe. In such a case there might be difficulty in getting a blade of the tractor to engage and hold on the summit of the lobe while great traction was made on it.[11] Enormous median lobes, as depicted in Figure 1,

11. Since writing this I have removed a pedunculated median lobe through the left lateral cavity, by the maneuvers described above.

had best be removed suprapubically, as was done in that case; but I believe that it will be possible to remove median lobes of considerable size perineally, and that without destroying the ejaculatory ducts, as outlined above. (I believe now—June 1—that even great intravesical hypertrophies can be removed through the perineum, as in a recent case of mine.) The conditions present after the enucleation of a median lobe as described above is shown in the schematic Figures 25 and 26. Figure 25 is a longitudinal section showing the cavity left by removal of this lobe, the ejaculatory ducts being below and in front, at quite a distance from it. In Figure 26 the median cavity is seen to communicate with the two lateral in each side, beneath the intact urethra. The seminal ducts are separated from the capsule by the posterior capsule.

The Removal of an Anterior Lobe.—The presence of a definite isolated anterior lobe is such a rare occurrence that it hardly need be considered. We occasionally see with the cystoscope small anterior outgrowths, but they are generally continuous with a lateral lobe.

One of my cases was of this character, and, although it looked through the cystoscope like a large rounded mass, I found that it came away easily with the left lateral lobe. I employed a procedure the reverse of that which I have just described for posterior middle lobes, the anterior lobe being engaged by a blade which was directed upward, as shown in Figure 27. The entire mass (left lateral and anterior lobe) was very large, measuring 7x6x5 cm.

The ability to make traction on any desired portion of the prostate is of the very greatest value and assistance, especially in enucleating these unusual outgrowths of the hypertrophied gland.[12]

Drainage.—Before withdrawing the tractor, a careful examination should be made by inserting the finger into both of the lateral cavities and palpating the blades through the vesical mucosa, in order to determine that no important glandular mass has been left behind. The tractor is then removed by first rotating the blades until they come together and then withdrawing the instrument. Abundant vesical drainage should be provided, as a small tube may easily become plugged by blood clots and give great annoyance afterward.

I now use the two tubes, one a small catheter and the other an ordinary tube about 1 cm. in diameter. These are fastened together by ligatures at four places, about one inch apart and are prepared before the operation, so that as soon as the tractor is withdrawn they can be inserted through the perineal wound into the urethra and bladder. The catheter is immediately connected with a tank of normal salt solution, and the bladder thoroughly washed clean of blood. It is often advisable to keep the continuous irrigation going while the patient is being returned to his room so as to prevent clogging of the drainage tube with blood clots during transit.

After the tubes have been properly adjusted, they are tied by a heavy silk suture to the skin at the upper angle of the wound. The lateral prostatic cavities are then firmly packed with gauze and additional packing is placed in the retroprostatic space. The tube and gauze drainage as thus provided is shown in Figure 28.

Fig. 28.—Scheme of continuous irrigation apparatus.

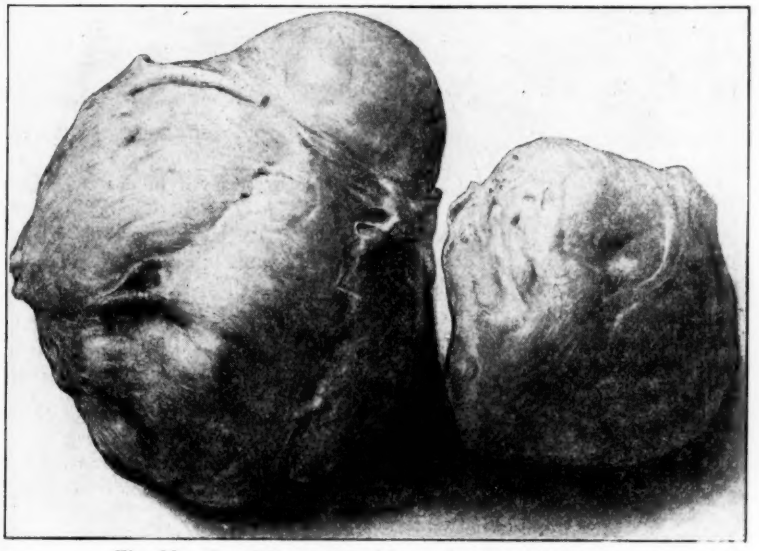

Fig. 29.—Two lobes removed by perineal prostatectomy. Actual size.

Partial Closure of Wound.—If the median perineal incision has been used, the posterior portion is closed by buried catgut for the muscle, and silk or catgut interrupted for the skin. While no important muscles have been divided (only the central tendon and the recto-urethralis muscle), it is nevertheless advisable to draw together the structures which have been so widely separated by retraction.

If the inverted V incision has been employed, I sew up the muscle and skin completely on one side. The object of this is to restore the perineum to as nearly normal a condition as possible. The other limit of the

12. During the preparation of this paper I find a reference by Petit to an instrument designed by Albarran to depress the prostate. No illustrations are given but, from his brief description, the idea seems to be similar to mine. The fact that it did not prove successful would seem to indicate that there were marked differences in the construction. The instrument which he called a "désenclaveur," is described as follows:

"Le désenclaveur est un désenclaveur à deux branches; chaque branche, aplatie, siège à l'extrémitie de deux tubes emboîtés l'un dans l'autre. L'instrument est introduit fermé dans la vessie par la boutonnière uréthral comme le serait un cathéter coudé, c'est-à-dire avec ses deux branches superposées. Une fois dans la vessie, les deux branches sont écartées à l'aide d'un levier externe construit sur le principe de celui d'un lithotriteur. Un index indique la direction donnée aux branches, et l'on cherche ainsi à abaisser le col vésical dans la but de désenclaver la prostate. Ce désenclaveur a été utilisé dans un certain nombre des cas, mais il nous a toujours donné des résultats insuffisants."

[Paris, Aug. 1, 1903.—Since my arrival here I have found in the shops two other "désenclaveurs," one by de Pezzu and one by Legueu. The former is similar in some respects to my tractor, but it is very much smaller, and is only used to depress the prostate while the prostatic urethra is incised. It is then removed, not being used to assist in the enucleation of the lobes—for which it is manifestly too small to be of any service. Neither author has published a description of his instrument, so far as I know. H. H. Y.]

inverted V and the stretched muscles beneath are partially closed posteriorly, leaving a small opening for the rubber gauze drainage in front.

Using this method of closure there is no more distortion of the perineum after this incision than after the median. And there should not be, as there is no more destruction of muscular continuity in one than in the other; in fact, they only differ in the cutaneous incision.

After-Treatment.—The patient is generally returned to his room accompanied by an assistant who sees that

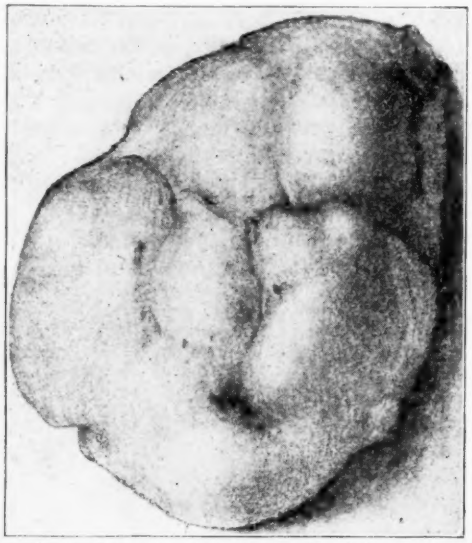

Fig. 30.—Coalescent lateral and anterior lobes removed in one piece. Actual size.

the irrigation is going well, and arranges to have it continued after he has been placed in bed. The apparatus used is indicated in the drawing. The flow is regulated by a screw clamp in the inlet tube. The outlet tube drains into a jar by the side of the bed. If the end is kept immersed in water, air can not get up the tube, and siphonage is obtained, thus keeping the bladder

Fig. 31.—Photograph of a pedunculated median lobe which was removed through the cavity left by left lateral lobe without tearing urethral or vesical mucosa. The three lobes are shown in exact size.

empty and preventing leakage around the perineal tubes. This siphonage is particularly important in suprapubic cases where the drainage is uphill. If the patient has a cystitis (and most have) a continuous irrigation of the bladder with salt solution is kept up often for a week, and, I have found, with great benefit to the vesical inflammation. The task of keeping the reservoir supplied with salt solution is not a difficult one, the nurse having to add a quart about every half hour. It is not necessary to maintain an even temperature—110 to 120 F. in the tank is about right—and the temperature is maintained between these fairly well by the half hourly addition of the hot salt solution. We have also a more elaborate apparatus with the Bunsen burner beneath, but find the simpler method sufficient.

A submammary infusion of 1,000 c.c. salt solution is given either on the operating table or after the return to bed. This is considered so valuable, both as a preventive to shock and anuria, and as a cure for postoperative thirst, that it is never omitted.

The patient is generally kept in bed a week, when the drainage tubes are withdrawn. The gauze drains are loosened on the second day and gradually withdrawn, all of the original being out by the sixth day. The superficial portion of the wound is afterward kept open by a small pack, so as to induce healing from the bottom. On the ninth day, after passing a sound, a small catheter is inserted through the meatus into the bladder,

Fig. 32.—Photograph of large intravesical hypertrophy of median and lateral lobes removed through the lateral cavities without tearing the urethra.

and held in place by straps. Permanent drainage is thus maintained for five days, the bladder being irrigated twice daily with boric solution. When the catheter is withdrawn a good portion of the urine will be found to come through the perineum, but in a short time almost all will come through the meatus, though it is sometimes five or six weeks before the minute perineal fistula closes. I generally use sounds to see that the patency of the urethra is all right, but do not find that it is necessary to pass them regularly and for a protracted period after the operation. I have never seen a stricture following the operation.

RESULTS.

I have now operated on 15 cases with the prostatic tractor, and generally by the technic described above. All of these cases are living and well. All can empty their bladders completely and none use the catheter. Incontinence of urine has never been more than a temporary affair, and the perineal fistula has closed in all, except the recent cases. One case, 69 years of age, with

a tremendous prostate, who had led a catheter life for 10 years, is now, 7 weeks after the operation, voiding urine at intervals of 3 hours. Most of my cases being of such recent date, I shall not lengthen this paper by going into details, especially since it is too early to speak of permanent results.

As to the important question of sexual powers, I have determined that the power of erection is already present in some; that ejaculation is apparently normal, and that the semen obtained by ejaculation contains numerous actively motile spermatozoa and the lecithin bodies which are found in normal prostatic secretion. Their presence show that the bridge of prostatic tissue surrounding the ejaculatory ducts, which I have been careful to leave intact, is furnishing a part of the fluid ejaculated. This is possibly of great importance since it has been shown by Fürbringer that, without the mixture of prostatic secretion, the spermatozoa are nonmotile and apparently lifeless. It is possible that only a small amount of prostatic secretion is necessary to vivify the spermatozoa, and that enough is furnished by the tissue which I have left. On the other hand, it may be that the remaining glands have increased in number after the removal of the lateral compression. Although a longer period of time must elapse before the effects of the operation can be thoroughly realized, I feel convinced, from the cases which I have already studied, early though they are, that the sexual powers will be perfectly preserved, and that their ability to procreate will remain unchanged.

I may also add that the instrument which I have called my "prostatic tractor" has transformed, for me, the operation of prostatectomy. Where before it was (with me—perhaps not with others) an operation done somewhat haphazard, depending largely on the sense of touch, and in the dark; now the entire operation is performed in a shallow wound, accurately under visual control, proper regard being paid to the urethra and to the ejaculatory ducts, so that they are preserved to continue their pleasant duties.

A CASE OF AEROGENES CAPSULATUS INFECTION OF THE NECK.*

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The case which I have to report is one of some interest from the rather infrequent occurrence and from the fact that the *Bacillus aerogenes capsulatus* was obtained from the wound six days before death.

W. F.—Age 23, black, male, single, laborer, muscular and vigorous; family history negative. Entered hospital January 27, died Feb. 4, 1903.

Gave history of having had a "sore throat," with considerable swelling of left side of the neck in the region of the tonsil. The symptoms referable to the throat lessened, but the external conditions became worse, developing considerable swelling and pain.

His physician, seeing him for the first time at night, made the diagnosis of erysipelas. Later the diagnosis at the hospital was made of suppurative cellulitis of face and neck. At this time his pulse was 128, respiration 30, temperature 102.

An incision was made, from which a small amount of dark fluid exuded, but no pus. Thorough irrigation every four hours with bichlorid of mercury was instituted without visible result. The inflammatory reaction around the wound was not at all severe, and after the second day the skin below the incision slowly separated from the subcutaneous tissue, until at the fourth day a gangrenous area was present reaching from the ear to the clavicle, and discharging a light sanguineous fluid from an opening at the lower edge. About the fifth day the skin was entirely separated, leaving the muscles beneath clearly exposed. The fibrous tissue rapidly became destroyed, leaving the underlying muscles, vesicles and nerves clearly exposed to view as in the most careful dissection.

The swelling was not extreme, and until the last day no emphysema or crepitation was present, and then only in small amount.

The temperature ranged from 102 to 105, being with difficulty kept below 104 by ice caps and baths.

The pulse varied from 128 on admission to 140 at the time of death. Until within a few hours of his death it was full and strong, despite its rapidity.

The respirations were rapid, varying from 28 to 34 most of the time, although there were times when it dropped as low as 20 to the minute.

The urine showed a progressive diminution in quantity, specific gravity, total solids, percentage and total elimination of urea, chlorid, phosphates and sulphates.

The reaction was acid throughout. Traces of albumin and bile were present for the first two days, but did not appear again.

The microscopic examination was negative in all the daily examinations.

The blood examinations were of some interest, showing a progressive decrease in the number of erythrocytes, percentage of hemoglobin, specific gravity and hemoglobin index.

The leucocytes showed a progressively increasing infectious leucocytosis until twelve hours before death, when an enormous drop in their number apparently heralded the end of the patient's ability to react. Up to this time he had been cheerful, declaring that he would be entirely well in a few days.

The decrease in leucocytes was mostly due to a great diminution in the number of neutrophiles, which fell from 86 per cent. to 40 per cent.—almost even with the small lymphocytes, which in turn showed a reciprocal increase.

The full results of the blood examinations may be seen at a glance from the accompanying table.

No bacilli were observed in smears of the blood during these examinations. The last day, about 12 hours before death, some irregularity in the red cells appeared, a number of poikilocytes and microcytes being observed, but at no time were any nucleated red cells noted.

An examination of the pus was made six days before death. In smears a large number of bacteria were observed, but streptococci seemed to be absent. Other cocci staining by Gram's method were present, and a few large bacilli, which in all probability were *Bacillus aerogenes capsulatus,* but on which I was unable to demonstrate any capsule, either in ordinarily prepared specimens or by the special methods of capsule demonstration. Some of the pus was collected in sterile capillary tubes, and from these aërobic and anaërobic cultures were made within 15 minutes of its collection. The aërobic cultures were made in ordinary agar in Petri dishes in the incubator. The anaërobic cultures were made by the method of Veillon. In this method a number (15 to 20) of large test tubes of glucose agar are melted by immersion in boiling water for an hour in order to expel all the air. They are then allowed to cool to within a degree or two of the point of solidification, when one of the infected capillary tubes is plunged to the bottom of the agar and its contents expelled by blowing. As soon as the agar is inoculated it is solidified at once by plunging it into ice water. The capillary tube is then immersed into each of the series of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

agar tubes blowing gently into it and agitating it at the same time. In this way a number of the tubes will be inoculated, the number of colonies varying from one or two in each tube to a number too great to count. All the tubes are now placed in the incubator until the colonies develop sufficiently to be studied. Cultures obtained in this way developed a large number of colonies in the deeper layers of the tubes, which were subsequently separated into a strict anaërobe and four aërobic organisms. The strict anaërobe was determined to be the *Bacillus aerogenes capsulatus* of Welch, although in the beginning some uncertainty arose from the absence of a capsule and lack of gas generation in the wound. Both of these characteristics were, however, observed in subsequent inoculation experiments. The following biologic characteristics were determined and verified in the work of investigation.

The organism is a strict anaërobe, but will grow in deep layers of glucose agar in Veillon's method. I was

RECORD OF BLOOD EXAMINATIONS.

Date, 1903.	Jan. 28.	Feb. 1.	Feb. 2.	Feb. 4.
Red blood cells	4,802,000	4,265,000	3,840,000	3,121,000
Leucocytes	19,524	36,742	72,800	11,121
Specific gravity	1052.5	1046	1037	1030
	Per cent.	Per cent.	Per cent.	Per cent.
Hemoglobin, specific gravity	72	52	33	20
Hemoglobin (Gowers')	70	49	38	28
Hemoglobin index	74	57	49	32
Small lymphocytes	6.2	7.6	.....	37.3
Large lymphocytes	3.8	5.1	.....	22.2
Neutrophiles	89.7	86.3	.....	40.1
Eosinophiles	0.3	1	.....	1.4
Poikilocytes	.....	.....	.....	few
Microcytes	.....	.....	.....	few

* Twelve hours before death.

RECORD OF URINARY EXAMINATIONS.

Date, 1903	Jan. 28.	Jan. 9.	Jan. 30.	Jan. 31.	Feb.	Feb. 2.	Feb. 3.	Feb. 4.
Transparency	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy	Hazy
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Ye low	Yellow
Specific gravity	1018	1018	1018	1016	1014	1010	1010	1008
React'on	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid
Quantity (24 hr.)	1350		*		*	1299	*	1200
Total solids	56.61	*	*	*	*	30.29		23.32
Ur a	1 952	1.9	1.8	1.75	1.6	1 2	1 4	1.2
Total urea (24 hr.)	26.32	*	*			15.48	*	12.0
Chlorids	6%	*	*				*	3%
Phosphates	1%	.8%	.6%	.5%	.4%	0.5%	.3%	0.25
Sulphates	2%	*	*	*	*	0 75	*	0.5
Sugar	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Mucin	Abund.	Abund.	Abund.	Abund.	Abun	Abund.	Ab nd.	Abund.
Albumin	Trace	Trace	Absent	Absent	Absent	Absent	Absent	Absent
Bile	"	"	"	"	"	"	"	"
Microscopic	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg

* Not recorded.

unable to obtain more than a trace of growth by deep stick culture.

In hydrogen, illuminating gas, carbon dioxid and by the pyrogallic acid method growth will result, but best in an atmosphere of hydrogen. Good growths were also obtained under a layer of *Bacillus subtilis*.

The bacillus grows slowly at the room temperature on all media if the oxygen conditions are favorable. They resisted a temperature between 5 and 0 C. for twenty-four hours. The thermal death point was not determined.

When developed in plate cultures in an atmosphere of hydrogen the colonies may reach a size of 1 mm. in diameter in forty-eight hours in the incubator. These colonies are round, convex and smooth. They refract the light strongly and are finely granular when examined under a low magnification. The edges of the colonies are entire. By reflected light the colonies are whitish opalescent. By transmitted light they are a smoky brown. The bacilli are about the size of anthrax, but the ends are usually rounded. They are frequently found singly, usually in pairs or threes, and once a chain of twenty elements was found. In bouillon cultures they appeared to be somewhat shorter than on solid media. They stain easily, but irregularly, by all the common dyes and also by Gram's method. Old colonies show many individuals who do not take Gram's stain, and chains were observed in which alternate cells only remained stained by Gram's method, the intermediate ones being decolorized. The water of condensation, or rather the small amount of water squeezed out of the agar on cooling, contained the most luxuriant growth, despite the fact that it was exposed to the air. This is accounted for, as pointed out by Novy in the case of *Bacillus oedematis maligni II*, by the fact that the oxygen in the water has been displaced by other gases produced by the bacilli deeper in the tube. It might also be noticed that much of the air was previously expelled from this water during the melting of the agar and that the conditions are not favorable for absorption of much oxygen. In all sugar-containing media large amounts of gas were generated, the bubbles beginning to show in six hours, and in twenty-four hours in most cases the agar would be broken in several places and pushed up against the cotton plug. Some gas was produced in media containing no sugar, but in small amount. Gelatin was very slowly liquefied. One series of tubes kept in the incubator in hydrogen for three weeks refused to solidify on being again cooled, while the controls solidified readily.

The organism appeared to be non-motile, and no flagellæ or giant whips were found.

Spores were found once on an old Loeffler's blood serum culture which had been in the incubator in a Novy jar of hydrogen for seven days, and again on a plain agar reimplantation from the blood serum tube. The spores were central and did not cause any increase in the transverse diameter of the cell. All culture media became intensely acid within twelve hours of growth. This was also the case with the tissues of animals which died from inoculation, and in one test made from the secretion from the lesion of the patient. In this case the secretion had collected to the amount of about 1 c.c. in a necrotic pocket between the skin and underlying tissue. This was so intensely acid that I call attention to it as of possible subsequent value as an early diagnostic point. Litmus milk was precipitated and decolorized without being rendered, and a clear fluid left above the coagulum.

In pure culture in intravenous injection about half of the rabbits inoculated died and the bacillus was recovered from the heart's blood and tissues. Dogs were more refractory. When mixed cultures of *Staphylococcus aureus* and *Bacillus aerogenes capsulatus* were given subcutaneously large sloughing areas of necrosis followed in four out of five cases. The last case formed an abscess cavity which discharged pus containing both bacteria through a small fistulous opening, and finally healed completely.

In another series of inoculations in dogs, through cleansing of the necrotic area with hydrogen peroxid, it resulted in recovery.

A rabbit in which 1 c.c. of a bouillon culture had been injected in the ear was killed, as suggested by Welch of

Baltimore, and in twenty-four hours the characteristic swelling occurred. This was allowed to progress at the room temperature for four days, when the distension was enormous. The gas was then collected over water through a canula and found to contain CO_2 hydrogen and a trace of H_2S.

It burned with a very white, bright flame, resembling, although not so intense, the flame of acetylene gas.

I believe that this is the first case reported in which the infection in all probability entered the tissue through the throat and without history of an abrasion or lesion of the epithelium.

DISCUSSION.

Dr. L. Hektoen, Chicago—In connection with this interesting case I would refer to one in which the infection took place through a transfusion puncture of the skin in the submammary region. Spreading emphysema appeared and after death a general infection of the *Bacillus aerogenes capsulatus* was demonstrated.

Dr. Louis Leroy, Nashville, Tenn.—The bichlorid treatment was carried on in this case for a number of days without effect. In the experiments with animals peroxid of hydrogen seemed to stop the process almost within a day. I believe that further observations on the reaction of the pus in such infections will prove of value.

INFECTION OF THE GALL BLADDER AND BILIARY DUCT CONTENTS.*

EDWIN RICKETTS, M.D.
CINCINNATI.

A little more than a decade ago, if a surgeon opened an abdomen for suspected gallstones and did not find them he was most fortunate if the medical finger of derision for diagnostic failure was not pointed at him—gallstones were considered a disease *per se*.

The nomenclature of gallstones, as it has been and is used, is incorrect. It is not important that we should give the anatomy in detail of the liver, and especially of its system of biliary plumbing. A healthy gall bladder should have tonicity and when well filled it should touch the abdominal peritoneum in front, that portion of the liver posteriorly, the duodenum colon, the stomach and pylorus—all of which are in close proximity.

In the healthy subject, the gall bladder can be artificially anastomosed to the stomach, colon and duodenum. Such has been accomplished in neglected cases by no other effort than that of Nature. As the results of infection, we can justly consider such as serious complications, rather than successes. It is important that the family physician appreciates this, along with knowing that the surgeon is competent to do better work, and for this have better results, if he is consulted as to when is the best time for operating.

The simplest procedure of the list suggested for the relief of the infection under consideration, in more than the majority of cases, is cholecystostomy, which consists in opening the abdomen directly over the gall bladder, incising the bladder, cleaning it out and stitching the edges into the small abdominal incision, leaving a temporary sinus for the escape of the secretions of the liver, until it appears certain that that organ has resumed its normal function and has free drainage through the common duct. If a secondary operation is demanded, one can readily and easily reopen the gall bladder that had been purposely attached into the abdominal incision.

In those cases in which the gall bladder has been distended from empyema, it is gratifying to know how they will contract after they have once been drained. Postmortems show clearly the relationship of those organs adhered in closest proximity to the gall bladder and its ducts—for the bile stain present comes from exosmosis. It is claimed that three-fourths of the cases in which gallstones result occur in women. The work of the surgeons does not find that these cases are more frequently found among those of the higher walks of life following sedentary habits. Precipitation, or the result of bile infection, can give a solitary calculus or hundreds of calculi; numbers do not add to the gravity of any case. The germ theory has been well established. The typhoid and colon bacillus are recognized as the greater microbic elements to be dreaded; more especially the colon bacillus.

Experiment has demonstrated that aseptic foreign bodies within the gall bladder, floating in healthy bile, are not exciters of inflammation. It has been further demonstrated that the gall bladder and its contents can be infected by the typhoid and colon bacillus, necessitating a cholecystotomy, and the cystic duct remain free from infection and still perform its function.

It is in this class of cases that rupture of the gall bladder occurs. With the inflammation extending to the cystic and common duct, we can have the biliary colic attacks that so often have been credited to the passage of calculi through the common duct. We have an illustration in the attacks of appendicular colic in which there is no foreign body present. In those distended gall bladders that come from such a redundancy of tissue, there is residual bile, which of its weight causes flexion of the gall bladder at the cystic end.

The cystic and common duct may be healthy and yet fail to carry off these gall-bladder contents. This stagnant bile can easily become infected by the microbes passing through the walls of the colon, duodenum and portal vein through the gall-bladder walls, attacking the bile. This explains how a serious gall-bladder infection can be present while the cystic and common ducts remain patent, or partially so. The patient may succumb to septicemia before Nature can effect an anastomosis of the gall bladder to the duodenum or colon. The adhesions to the proximal tissues are numerous and make formidable the doing of any subsequent operation on the gall bladder or its ducts, as in trying to relieve the distressing symptoms that so often arise. The residual bile results from the redundant tissue of the anteflexed gall bladder, which is lacking in contractile power. The contents are especially liable to infection.

We find many contracted and flexed gall bladders held firm in a bed of adhesions, causing pain and discomfort to the patient. Freeing these adhesions and correcting the flexion often effects a cure. The precipitation of the salts of infected bile can be found in the biliary ducts and in the hepatic cells.

It is not the over-extended gall bladder, and the one which may be readily felt through the thin abdominal wall, that is so badly in need of the prompter surgical intervention, as much as it is the infected and tense gall bladder with localized pain with loss of strength, a low grade of fever, accelerated pulse, and with more or less sallowness of the skin. The localized tenderness is brought out by a deep, firm pressure over the gall bladder by one of the middle fingers, causing a sickening pain. We have pinhole ruptures occurring in the gall

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

bladder, cystic and common duct, with the possibility of hepatic and perihepatic abscesses to follow.

Jaundice is a serious complication in those cases that are to undergo a surgical operation. Bile reabsorbed is a formidable poison, acting, as it does on the heart and kidneys. It is much more poisonous than urine. Fatal secondary hemorrhage in cholemic subjects has resulted fatally following a simple abdominal section. In these cases midoperative hemorrhages are not always readily controlled. Rupture of the gall bladder has followed an attack of vomiting. Roth, Schroeder and Schloth made 10,866 necropsies, finding biliary fistulæ forty-three times. Courvoisier reports 539 fistulas; 184 between the bile ducts and the abdominal wall, 108 between bile ducts and duodenum, ninety-three between the gall bladder and the duodenum, twelve between the gall bladder and the stomach, fifty between the bile ducts and the colon, and forty between the gall bladder and the colon. These reports lead us to think that biliary fistulas are not so common as the profession in general have been led to suppose.

The sudden escape of a portion of the contents of an empyemic gall bladder means rapid infection of the peritoneum.

Dr. Barker, Bellvue, Ky., tells of a case in which the tip of the gall bladder was shot away from a healthy subject. Bile poured out freely through the abdominal wound, and with it soon came one large gallstone. The wound was packed and kept clean, and the patient recovered.

In infected gall bladders it is well to make the incision directly over the gall bladder, and after failing to dislodge the stone downward and into the duodenum by the probe, or upward and into the gall bladder by upward pressure of the finger, it is better to incise the duodenum, exposing the common duct opening into the same and, after careful dilating, pass a probe into and through the common duct; pushing, if possible, the calculi up into the cystic duct, or, better, into the gall bladder for extraction from above through the incision by means of the alligator forceps. Any calculi located in the cystic or common duct acting as a ball valve, so graphically described by the late Christian Fenger, can be drawn out through the incised gall bladder by means of the forceps.

With early diagnosis of infection of the contents of the gall bladder—in which the tenderness over the same does not disappear along with the fever, accelerated pulse, lethargy, loss of flesh and strength—a cholecystostomy will relieve these patients better and more satisfactorily than efforts at medication can possibly do.

The early diagnosis of biliary infection is not difficult. With a careful consideration of the principles laid down it is as easy as that of appendicitis. With an early diagnosis these cholecystostomies may be successfully performed under local anesthesia. If difficult complications should arise, general anesthesia may be resorted to in order to complete the operation.

The laity must understand, through the family physician, that it is not a harmless disease, and that this optimistic view that is held is most dangerous to many valuable lives. Those cases that are said to recover from medication are so rare, comparatively, as to be unfortunate for those cases that come after. The liver is the largest secreting organ within the body; its secretions are the most abused in health, the most neglected in disease.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—I think we all agree that empyema of the gall bladder frequently results in speedy death if drainage is not obtained. But it is a question how far the operation should be carried and how much should be done in severe cases associated with stone in the common duct. These patients are poor subjects for surgical work, and in the majority of instances, if there is an impacted stone in the common duct, or dilated portion of the duct, there is intermittent jaundice; so that we have added to the dangers of shock those of septicemia and secondary hemorrhage. These dangers must be taken into account in every gall-bladder operation. From the picture the essayist has drawn I would advocate in all instances the attempt to remove the stone from the common duct. But if we have a patient greatly exhausted from septicemia and very much jaundiced, either intermittent or permanent, with a stone in the common duct, we will do well in many instances if we content ourselves by draining the gall bladder, because 75 to 80 per cent. of our patients will die if we go beyond that simple procedure. As to cases in which we feel justified in doing something, where there is a stone in the common duct, I would not like to accept in an unqualified manner the technic given by the essayist. I would hesitate to add to the danger of exhaustion the danger of opening the duodenum. I do not believe that we will often find this necessary. If we can not move the stone upward or downward by manipulation it will, in the majority of instances, be better to open the common duct. If the stone is in the middle of the duct or near the duodenum we will have better results if we incise the common duct and remove the stone, which can be done very quickly, and then resort to the method of Kerr—drainage of the hepatic duct by insertion of a tube. These cases have a mortality somewhere between 75 and 85 per cent. even in the hands of such masters as Kerr and Robson. I have found that by simply draining the gall bladder the signs of septicemia pass away, the patient partially regains his health, and the mortality is then only about 10 per cent. Therefore, in these severe cases I advocate two operations: 1. Opening and draining the gall bladder. 2. After the patient has regained health reopening the abdomen and removing the stone from the common duct.

DR. C. V. THIENHAUS, Milwaukee, Wis.—I would like to defend the duodenal route in impaction of gallstones in the common duct. The transduodenal route does not come into question when the stone lies in the upper or in the middle portion of this duct, but it does when the stone is impacted near the papilla or in the so-called retroduodenal portion of the common duct. I do not see any reason, as I have pointed out,[1] why, when a stone protrudes at the papilla and is almost in the duodenum, or when it lies impacted in the retroduodenal portion of the common duct, where it is very difficult to reach from the middle portion, we should not for these cases use the natural and more easily to be performed transduodenal route. I operated on one case in this manner in which a stone was so firmly impacted in the retroduodenal portion that even after opening the duodenum and making a large incision into its posterior wall, it was difficult to dig it out of its diverticulum. After removing the impacted stone three other stones lying higher up in the common duct could easily be stripped down into the duodenum and removed. The woman is perfectly well now and gained 67 pounds since the operation, which was performed 15 months ago. For this class of cases I can heartily recommend McBurney's transduodenal route.

DR. S. S. HALDERMAN, Portsmouth, Ohio—In the early history it is not always possible to make a diagnosis. The pain is not pathognomonic. I have been very much in doubt at times, owing to the age of the patient, whether there was a malignant trouble or a benign disease of the gall bladder. In cases of contracted gall bladder in which there are but one or two stones, and in which there has been more or less irritation going on for some time without severe attacks of such hepatic colic as accompanies the passage of smaller stones through the duct, I have come to the conclusion that an ex-

1. "The Transduodenal Route, etc.," Annals of Surgery, December, 1902.

ploratory incision is demanded for the safety of the patient. When there is a distended gall bladder in cancer of the pylorus pressing on the gall ducts and obstructing that organ, by draining the gall bladder one can make a patient very comfortable, and, in fact, prolong his life. In a recent case I made an incision and found malignant disease. I drained the gall bladder and the patient lived three or four months with comfort. She had been taking very large doses of opium for the terrible pain, but after the operation she abandoned it.

Dr. H. O. Marcy, Boston—The question of vital importance is how and when to make the diagnosis, rather than the question of operative details. The most lamentable feature of the whole matter is the failure of the general practitioner to recognize these conditions early and bring them to operative procedure early. If we could make an emphasis in this direction we would do a much greater service to the public than by confining ourselves to the technic of the operation. It is true that we ourselves were blunderers. I was the first to remove stone from the common duct, and yet that was almost an accidental condition. But the unfortunate thing was that the patient had been allowed to go on to the risk of life before operation. Let the general practitioner study his cases of obscure gall-bladder disease and not think that when he has biliary obstruction and an extreme case of jaundice that that is the time to consult.

Dr. A. Palmer Dudley, New York—In cases of empyema of the gall bladder, or of systemic infection, I aspirate the gall bladder, having first grasped it with two pairs of fine forceps so that it can not collapse and get beyond my reach. After aspirating the gall bladder, before opening it, we are able to make a more perfect diagnosis of the condition existing in the bladder. Then I refill that gall bladder with a 1-500 formalin solution. I have been using formalin in infection for a long time, and have found it to be a thorough germicide. One can wash out the bladder and aspirate as many times as one pleases until one has a thoroughly aseptic bladder before one opens it to remove the stones. In cases such as Dr. Ricketts described I agree with him. I believe it safer to fasten that bladder up and drain it than to do a radical operation. In many cases a radical operation may seem better for the patient, but with the patient thoroughly saturated with bile, the vessels engorged with bile, there is no contractile power in them. There is no power to form a good plug in such a vessel and the danger of hemorrhage is great.

Dr. Edwin Ricketts—The emergencies bother us more than anything else in operating. It has been well said that the essential treatment of cases in which the stone is in the common duct is along the line of prophylaxis, a procedure which I advocate, for then we will not have the stone in the common duct. One point I want to impress is that there is never a stone in the common duct, but that there have been symptoms long before that that the family physician should recognize and treat by prophylaxis. That prophylaxis is draining of the gall bladder. Washing out the gall bladder with formalin is a good suggestion. The greater number of cases of malignancy occur after the age of 50, but there are quite a few cases of infected gall bladders at 30 and some before 20, and wherever you find an infection I do not see why the general rule of surgery should be reversed and that is, turn out the infection. And yet the gall bladder is the last organ from which the suggestion for drainage should come. Dr. Goelet knows of the pressure on the kidney by a damming back of the urine, causing a hydronephrosis. Is there a surgeon who would hesitate to remove a stone in the urinary bladder, no matter how small? We are beginning to better understand the importance of infection. Delay under these circumstances has caused more deaths than all the surgical experimentation on the bile ducts. Infection of the gall bladder is a bad thing. These are unpromising cases; bad cases to work on. It is far better to handle these cases in the line of prevention than to operate when the gall bladder is full of pus. The importance of not delaying has been demonstrated time and again, and it has been so impressed on me that I now do this work as I outlined it in my paper, and I fear no criticism.

SARCOMATOUS TRANSFORMATION OF MYOMATA.*

THOMAS S. CULLEN, M.D.
BALTIMORE.

This report includes several cases of myomata where sarcomatous changes have occurred. From the number of cases recorded it is evident that the disease is more frequent than heretofore suspected. The sarcoma usually develops in one of several myomata and may

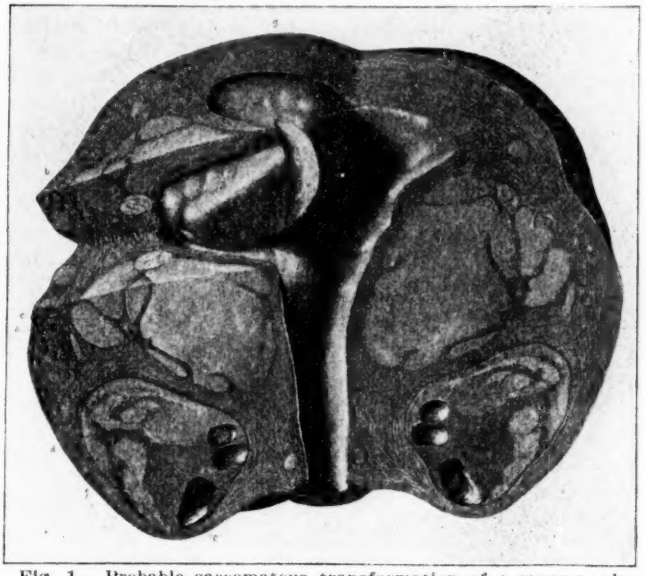


Fig. 1.—Probable sarcomatous transformation of a myoma, also discrete myomatous or sarcomatous nodules in the same uterus. At g is a typical submucous myoma. At c one of the sarcomatous nodules, while at d is a transition from the myomatous muscle into sarcoma. Fig. 2 is from the same case.

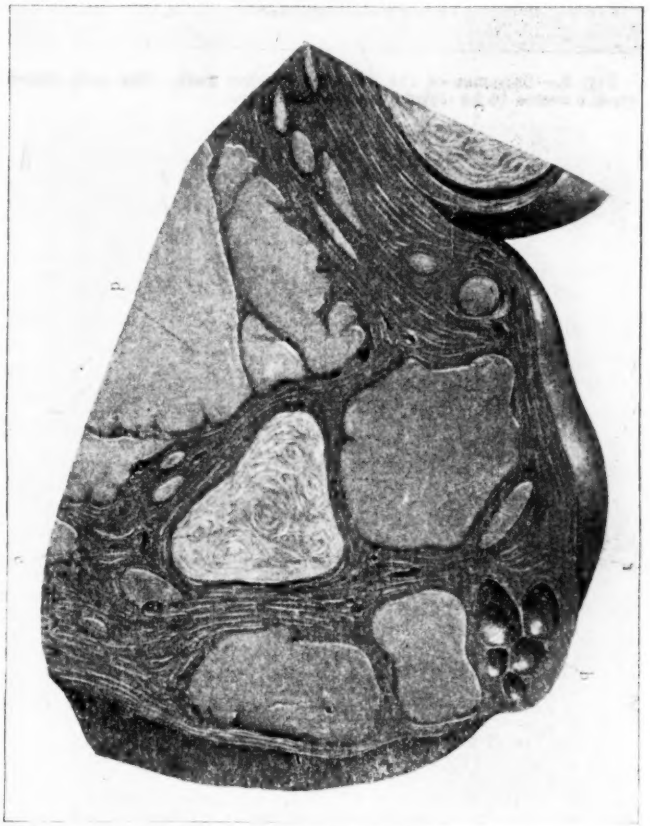


Fig. 2.—Association of myoma and sarcoma in the same uterus. The myomatous nodules are very easily differentiated from the homogeneous sarcomatous ones.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

be situated in a subperitoneal interstitial or submucous nodule. Until recently it was supposed to be confined chiefly to submucous myomata.

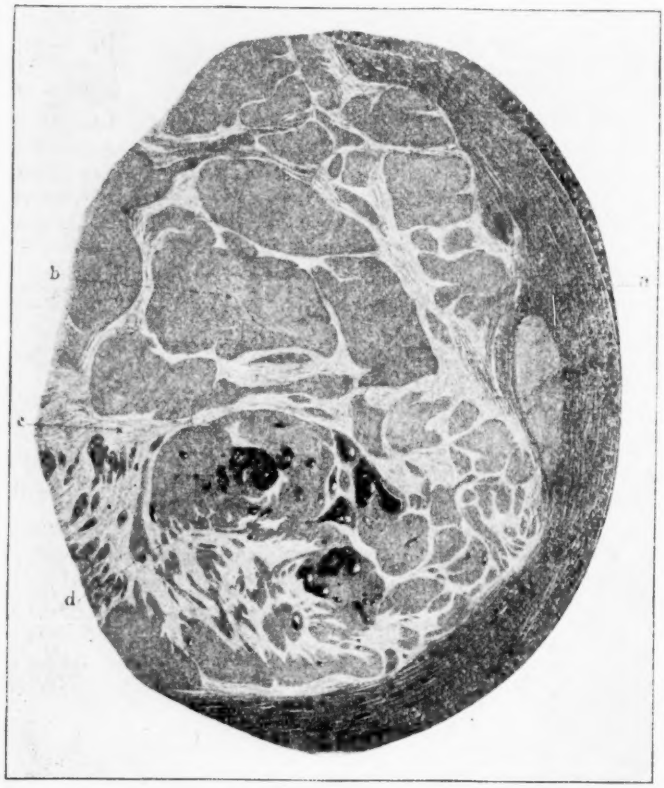


Fig. 3.—Sarcoma of the anterior uterine wall. The pale framework c seems to be myomatous in character.

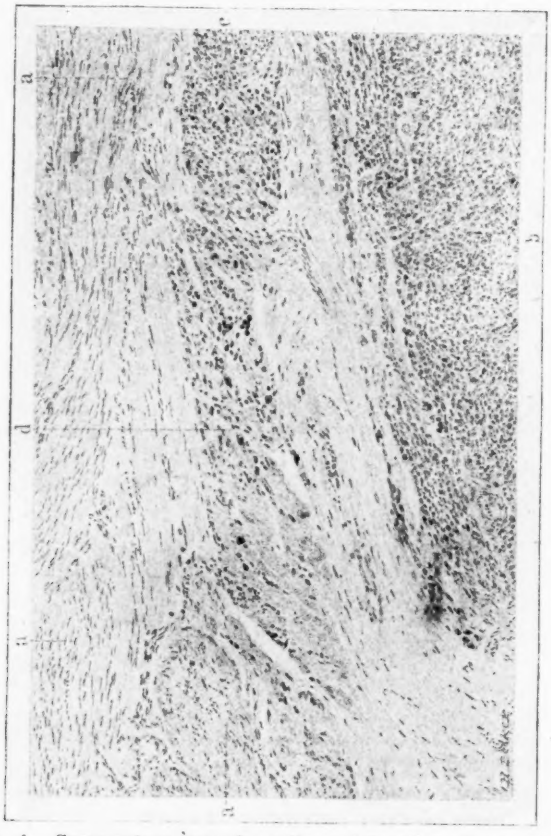


Fig. 4.—Sarcomatous transformation of bundles of myomatous tissue.

The gross changes are characteristic, the firm cross-grained myomatous tissue being replaced by a homogeneous yellowish white growth devoid of a fibrous arrangement and closely resembling raw pork. Degenerations in the sarcomatous tissue are frequent.

Histologically these growths are found to develop from two sources:

1. The connective tissue.
2. The uterine muscle.

Those of connective tissue origin may consist:

(*a*) Of spindle-shaped cells.
(*b*) Of round cells.

In those derived from the muscle a direct transition from the muscle fibers into the sarcomatous ones can be followed. Several such cases have been noted at the Johns Hopkins Hospital.

The clinical history is rather significant: A myomatous uterus has lain comparatively dormant for several years and the patient comes with a history of rapid uterine enlargement during the last few months. If the myoma has been submucous portions have from time to time been expelled "recurrent fibroid," and there is a free offensive discharge. The patient soon becomes cachectic.

The operative significance of recent laboratory investigation may be thus summarized:

1. Whenever sarcoma or carcinoma may coexist with myoma panhysterectomy is imperative—not amputation through the cervix.

2. Bisection of the uterus is contraindicated where there is a possibility of a malignant growth developing in or associated with the myomatous uterus.

3. In every case of hysteromyomectomy it will be advisable to have an assistant open the uterus immediately on its removal to determine if carcinoma of the body exists and to find out whether the myoma has become sarcomatous. If malignancy is detected the cervix can thus be removed without delay.

DISCUSSION.

DR. JOHN G. CLARK, Philadelphia—All scientific research should in some way lead to improvement in the practical treatment of patients, for our vocation as physicians and surgeons is to practice the healing art. From a purely clinical standpoint the work which has been presented by Dr. Cullen may appear to be clearly of scientific and not of practical interest, and yet, if his observations are applied to the clinical care of cases of fibromyomata of the uterus, it at once has a very important bearing. Noble concludes, that while fibroid tumors are benign, nevertheless the ultimate results and complications arising from them are such that it is seldom, if ever, justifiable to withhold operative interference. Practically applied, it seems to me that Dr. Cullen's work is an argument for Dr. Noble's questionable position, for he has shown that fibroid tumors which hitherto we should have taken as simple benign growths may actually already have undergone sarcomatous transformation. About 2 per cent. of all fibroid tumors are associated sooner or later with a malignant process, e. g., in some instances, cancer of the endometrium. This I have recently encountered in my clinic at the University Hospital in two cases, in which no suspicion of malignancy had been entertained. Williams, Pick and Cullen have shown that the muscle or fibrous tissue cells may actually be transformed directly from a benign to a malignant process. In contradistinction to this, cancer may be looked on as simply an engrafted process, which invades and destroys, but is never a pathologic transformation of a connective tissue to an epithelial cell. In hysterectomy for fibromyomatous tumors, my rule is invariably to leave the ovaries, if possible, and a portion of the uterus with its endometrium, in order to perpetuate the menstrual function to its natural cessation. The retention of only one-third of the original volume of the uterus will maintain menstruation. If this transformation observed by Dr. Cullen occurs with any

great frequency the latter policy may be questioned, for we may be leaving behind a portion of a malignant growth. I judge, however, from his paper that this transformation is not frequent, and therefore, especially in young women, the fear of its recurrence should not materially influence us in discarding the conservative policy. While some distinguished surgeons are inclined to deny the possibility of auto-implantation, I am convinced that it is possible to carry cancer cells from the field of operation into healthy tissue where cancer will recur. I wish to ask Dr. Cullen how often these malignant transformations of fibroids occur and how far his observations justify the physician in favoring the early removal of these clinically benign tumors with a view to preventing the complication.

DR. L. H. DUNNING, Indianapolis—I would like to have Dr. Cullen consider the influence of these findings on our technic in myomectomy. I also wish to ask whether or not he has collected statistics on the recurrence of these growths after complete and after partial removal of the uterus.

DR. C. O. THIENHAUS, Milwaukee—Does Dr. Cullen consider the presence of giant cells and myoclasts in fibroids a sufficient proof of malignancy? Saenger stated that all fibroids containing giant cells and myoclasts had to be classified as showing sarcomatous degeneration. Concerning Dr. Dunning's question, Martin found sarcomatous degeneration 6 times in 205 cases of fibroids, but this percentage is an exception and extremely high, in my opinion. Landau collected from the literature 10 cases in which following retroperitoneal hysteromyomectomy later on a malignant growth developed in the cervix.

DR. C. L. BONIFIELD, Cincinnati—About eighteen months ago a patient came under my care who had had an ectopic gestation that went to full term and who had had a missed labor fourteen years before I saw her. She developed an immense fibroid, larger than my head, which was undergoing sarcomatous degeneration at the time of the operation. I removed the uterus and the tumor and the ectopic gestation, but unfortunately she died a few weeks afterward from a recurrence of the sarcoma.

DR. T. S. CULLEN—It is impossible for me at this moment to tell the exact percentage of myoma cases in which sarcomatous degeneration takes place, but from 1.5 to 2 per cent. show changes definitely sarcomatous in character or strongly suggestive of it. Carcinoma of the body of the uterus is relatively common where uterine myomata exist. Taking all myoma cases we have at least 2 per cent. in which a malignant growth of some character is present. In hysteromyomectomy in favorable cases where there are not many adhesions the mortality will not be higher than this. I fully agree with those who advocate early operation in nearly all cases. Operate before adhesions have formed. I do not wish to deprecate bisection of the uterus. It is a most admirable operation where the uterus is wedged in the pelvis, thus preventing us from reaching the uterine vessels. If we bisect the organ the myoma can be rolled out, more space is thus obtained and the vessels are more easily controlled. But in these cases we must remember the possibility of sarcomatous degeneration of the myoma. We must, however, run the risk of cutting into the sarcomatous myoma as in some of the cases the myoma is so wedged in the pelvis that its removal would be impossible by any other procedure. Recurrences in cases where sarcomatous degeneration has taken place are certainly appalling. In some of the cases where bisection of the uterus was done the patients died of infection in a few days. I have a record of one case where within six weeks after hysterectomy the pelvis was filled with a sarcomatous growth. In one of our cases where temporary recovery took place Dr. Osler saw her six months afterward and there were metastases in one lung and in the mediastinal glands. She soon died. From the histologic standpoint it is most interesting to follow the sarcomatous changes in myomata, but we sometimes have specimens where it is impossible to say absolutely whether a given area is really sarcomatous or merely a suspicious but benign growth. One can not interpret the changes in the muscle cells with the same degree of precision as is possible when considering cell changes in the endometrium. From a systematic examination of the uterine mucosa we have found in nearly all cases where the tubes and ovaries are normal that it is unaltered. The changes that do occur in the endometrium are dependent almost entirely on the situation of the growth. If it be partially submucous the mucous membrane over its most prominent part will be thinned out more and more until eventually it is represented by nothing but a layer of epithelium. This, after a time, is flattened and disappears. In the depressions between the myomata there is often slight gland hypertrophy or polypi develop. Knowing that the endometrial changes are almost entirely mechanical in nature where normal tubes and ovaries exist, we can open up the uterine cavity in myomectomy cases when necessary, there being little danger of infection. On the other hand, it is rarely, if ever, advisable to do a myomectomy where the appendages are adherent. Several years ago I operated on a patient suffering from adherent tubes and a myoma in the posterior uterine wall. There was no evidence whatever of any recent infection. I made artificial extremities for both tubes and then did a myomectomy. Shortly afterward the patient's temperature rose and she developed definite signs of sepsis. Although we reopened the abdomen and drained thoroughly she died of sepsis a month afterward. In this case some old infection evidently lurked in the tubes and readily extended to the uterine walls at the site of the myoma enucleation. I would strongly advise against myomectomy in any case where the appendages are adherent.

A CASE OF ACUTE DISSEMINATED ENCEPHALOMYELITIS,

PRESENTING THE CLINICAL PICTURE OF MULTIPLE SCLEROSIS.

JOSEPH L. MILLER, M.D.
CHICAGO.

Acute disseminated encephalomyelitis manifests itself in one of two clinical types, viz.: As an acute ataxia or acute paraplegia. The ataxia type is often described as acute ataxia, or better, acute central ataxia, the latter term serving to differentiate it from the ataxia resulting from peripheral nerve changes.

Eisenman in 1863 described a case of post-typhoid ataxia as a result of myelitis. Leyden in 1868 reported a case following trauma. Westphal in 1872 reported several cases following variola and typhoid, and was the first to verify his diagnosis by autopsy. Ebstein at the same time reported a case of speech and co-ordination disturbance following typhoid, and eight years later reported the autopsy findings on the same case. Pollard in 1872, under the title, "Case of Locomotor Ataxia, Beginning Suddenly and Disappearing Under Treatment," described what was probably a case of myelitis. During the past thirty years numerous cases have been reported which, with the pathologic investigation, have verified the findings of the earlier writers.

NARRATION OF CASE.

This patient entered Cook County Hospital in July, 1902, in the service of Dr. Dolamore, through whose courtesy I am permitted to report the case.

History.—Patient was 47 years old, laborer. Family history was negative. He had been a moderate drinker during the past ten years; previous to that he drank excessively; he chews and smokes tobacco. He had syphilis twenty years ago and was treated at irregular intervals for several years. Six years ago, as the result of a trauma, he sustained a fracture of the right femur. Three years ago the patient was in Cook County Hospital with croupous pneumonia; during the course of the disease he suddenly developed an aphasia, which was only complete for a few days, rapidly improving. Whether there was an involvement of the legs at the same time the pa-

tient does not know and no record of it was made at the time. A few days later the patient made his first attempt to walk, and found that he staggered like a drunken man. Slight disturbance of speech has persisted since, particularly manifested in a slowness and monotone with inability to make himself understood when excited. The difficulty in walking varies with periods of marked improvement followed by relapses. There has never been any bladder or rectal symptoms. Sexual power is lessened, but eyesight is unimpaired. There is no gastric disturbance. His memory is good. He is more emotional during the past three years.

Examination.—The patient is well nourished and his color is good. The feet are widely separated in walking; toes abducted, heels striking the floor first. Muscular strength in all groups of muscles of both upper and lower extremities is good. There is no marked atrophy. Touch, pain and temperature sense are normal. There is marked swaying when the patient stands with his feet together, which is increased by his closing his eyes. There is no ataxia of the legs when lying down and very slight inco-ordination of the arms. There is slight tremor of the hands when at rest, increased by intended movement; very marked intention tremor in legs; none of head. The pupils are equal, reacting to light and accommodation, with marked horizontal nystagmus, no optic atrophy. Skin reflexes are present; knee jerk is slightly under normal. The patient speaks slowly and in a monotone, no distinct scanning. The hearing in the left ear is slightly impaired.

ETIOLOGY.

The vast majority of the cases of disseminated myelitis develop during or following the acute infectious diseases, especially variola and typhoid, less frequently whooping cough, erysipelas, dysentery, measles, influenza, malaria, tuberculosis and gonorrhea. Several cases are reported following exposure to wet, cold or severe fatigue. Leyden reports a case two weeks after fracture of the arm, Taylor after injury received in alighting from a train. A definite etiologic factor was not apparent in many cases.

Experimentally, Babinski has produced both transverse and disseminated myelitis by injection of *Bacillus pyocyaneus,* Roux and Yersin with *B. diphtheriæ,* Rogers with streptococcus. Eisenlohr found staphylococci in the cord in a case following typhoid. Banir found staphylococci following gonorrhea.

PATHOLOGY.

Westphal examined two cases of the paraplegic type, and found multiple areas of necrosis in the cord. Ebstein's case showed gray foci in the cord and medulla. Examinations of recent cases show perivascular inflammation in the cord, medulla, pons and cerebrum—in the latter in both gray and white matter. The nerve fibers are destroyed, the neuroglia increased.

SYMPTOMOLOGY.

Clinically, the disease manifests itself as an acute ataxia or paraplegia. The characteristic symptoms of the ataxia form given by Westphal were: 1, Slow or scanning speech; 2, ataxia with normal or slightly lessened muscular strength; 3, no sensory disturbances; 4, often psychic disturbances.

The ataxia is often more marked in the upper extremities, or it may be present in the form of a hemi-ataxia. Ebstein's patient could move his legs in bed without difficulty, but was unable to walk. Unconsciousness may mark the onset, the ataxia only appearing later as in Lenhartz's case; anesthesia and sphincter paralysis marked the onset, the ataxia appearing two weeks later. Intention tremor of the head and extremities is usually present. Nystagmus is an infrequent symptom. Speech disturbances are almost always present, varying from complete aphasia to slight slowing or monotone. Slight if any superficial or deep sensory disturbances are present. In Lenhartz's case the anesthesia present at the onset disappeared in two weeks. Sphincters were, as a rule, intact. Ptosis was present in Pollard's case. Optic neuritis has been occasionally noted. Skin reflexes usually unchanged. Tendon reflexes often exaggerated.

The paraplegic type is characterized by a flaccid paralysis, with loss of knee jerk, sphincter involvement and often sensory and trophic disturbances.

The course is: 1, Early complete recovery; 2, partial recovery, with perhaps only one symptom remaining, as the speech disturbance; 3, periods of improvement with relapses, the condition being progressive. Ebstein's case showed slight improvement in the beginning, followed by gradual progression, the ataxia reaching such a grade that the patient was confined to his bed during the last two years. Westphal believed that many cases reported as recovered would later relapse. Early fatal termination is unusual.

RELATION TO MULTIPLE SCLEROSIS.

The clinical picture in many of these cases, including the writer's, is one of multiple sclerosis. Leyden formerly maintained that the absence of progression differentiated it from this condition; this has not, however been supported by clinical facts, as in Ebstein's case quoted above. Instead of an acute process with healing and permanent defects, the acute onset would appear to mark the beginning of a chronic process, which may become latent, but more frequently tends to advance. Pathologists are agreed that the anatomic findings may be identical with those of multiple sclerosis. The clinical symptoms complete the picture, and it would be preferable, as is insisted on by many writers, to consider these cases of multiple sclerosis with acute onset.

TREATMENT.

In the early stages, rest in bed, with special attention to the skin to prevent bed sores, is essential. Cold may be applied along the spine, without, however, much hope of benefit. Later, the use of massage and electricity is of value. The systematic exercises employed in tabes are of value in lessening the ataxia. Freedom from exposure to cold and over-fatigue may prevent acute exacerbation. The long list of drugs which are reported as curative is evidence that spontaneous recovery, or at least improvement, is not unusual.

100 State Street.

DRAINAGE, SEWERAGE AND WATER SUPPLY OF NEW ORLEANS.*

GEORGE G. EARL.

General Superintendent of the Sewage and Water Board

NEW ORLEANS.

In undertaking to give you a brief account of what has been done, or is contemplated, in the direction of the draining and sewering of New Orleans, as well as in the matter of a water supply for her 300,000 thirsty citizens, I understand that I am undertaking a task which will require a most direct method of treatment, to be kept within bounds as to time, and will, therefore, without circumlocution or delay plunge at once into my subject.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

A map of southern Louisiana will show that New Orleans was begotten, geologically, geographically and commercially by the Mississippi river, which, beside being the Father of Waters, and of New Orleans, is the father as well of a very large area of assorted swamps and fertile alluvial lands known as the Mississippi delta.

Just to the north of New Orleans lies Lake Pontchartrain, which is twenty-five miles wide and forty miles long. North of Lake Pontchartrain are nearly level plains covered by pine forests which rise very gradually as one leaves the lake shore. These are not of any recent alluvial formation, and several of the small rivers draining this area command the only local water sheds which New Orleans could consider as possible sources for a water supply which would yield a soft water, free from the great amount of silt which the Mississippi river always carries. I will have occasion later to speak a little more fully in regard to them.

All the land remaining in southeast Louisiana, east, south and for eighty miles west from New Orleans, is the creation of the Mississippi river. A hundred miles of original gulf front has been advanced eighty miles into the gulf by its deposits. For centuries the river has been scouring half of the continent for material to this end, and no year has passed that it did not, in annual overflows, contribute vast accumulations of silt. Through many outlets, all with shifting channels, it poured its muddy waters, cutting here and building there, according to its whim, but building always until every outlet was in truth a river on a hill. No natural drainage anywhere in the area finds its way into the Mississippi river, but rather seeks the gulf through the swamps behind, the surface of the river, even at low water, being about level with the low lands lying but a short distance from its banks, and at high water so far above even the natural banks which its waters have built, that in order to inhabit and cultivate their fertile fields and protect them from further overflow, artificial embankments, or levees, ranging from a few feet high at the lower end of the river to as much as twenty-five feet in places higher up, have had to be constructed. The lands thus reclaimed are immensely productive and repay many times the cost of their reclamation, and even compensate, in the long run, for the occasional disasters which follow broken levees and the inundation of large areas with the consequent loss of crops and great damage to existing improvements.

These lands, for an indefinite depth, are river silt; a stone even as large as a pea could not be found in a whole parish. They vary from a heavy, sticky, plastic clay to sand of various grades, the clay predominating; while at gulf level the lands have often been covered by vast cypress forests, many of which still remain, while others have vanished and been covered by silt from subsequent overflows, resulting in strata of stumps (some of which excavations reveal in a distressingly good state of preservation) and in other strata of rootlets and vegetable fiber very nearly resembling peat, but often mixed with clay. All of this soil is saturated, though so close grained as to part with its water most slowly and reluctantly. At New Orleans a hole, say four feet in diameter and two or three feet deep, will usually show water at its bottom, but on sinking the hole deeper the water will be taken out with the excavation and without pumping, and it will require often several days before enough water will seep into the hole to fill it to the level at which water originally stood.

In making excavations no picking to loosen the earth is required; a shovel enters easily, but in the predominating clay it takes a strong man to raise a shovelful, and to cast the dirt from the shovel is usually impossible as it sticks with remarkable tenacity.

Such a saturated, plastic soil as just described has only a very limited bearing power; overload it and down goes your structure. It partakes, in a limited sense, of the nature of a thick fluid, transmitting pressures and vibrations somewhat as a fluid transmits them, and making foundations for heavy structures as well as excavations of great depth both difficult and expensive.

Your attention is now invited to a map (No. 1) of New Orleans (the city limits really cover considerably more territory than is shown, but the remainder need not be considered).

Within the area shown by this map there are some 900 miles of streets. Over 600 miles of these are really open, and about 400 miles are in the well-built or rapidly-building area. The total area covered by the map and within the city limits is about 20,000 acres, or thirty-one square miles, sufficient easily to accommodate 1,200,000 people. The top of the map is north. Near the bottom of the map is the Mississippi river, which nearly boxes the compass in passing New Orleans, running in every direction save west, and rendering the question of "where is north" hopeless to strangers and difficult to the dwellers on its banks. At low stages of its waters the river surface rises and falls with the irregular gulf tides, and despite the fact that its minimum discharge is seldom less than 200,000 cubic feet per second, and its distance to the gulf about 100 miles, we often find its surface at New Orleans practically at gulf level.

At extreme high water the minimum discharge is multiplied by ten, the velocity is enormous, and the surface of the seething yellow waters stands twenty feet above gulf level, and as much above over half of the area shown on this map.

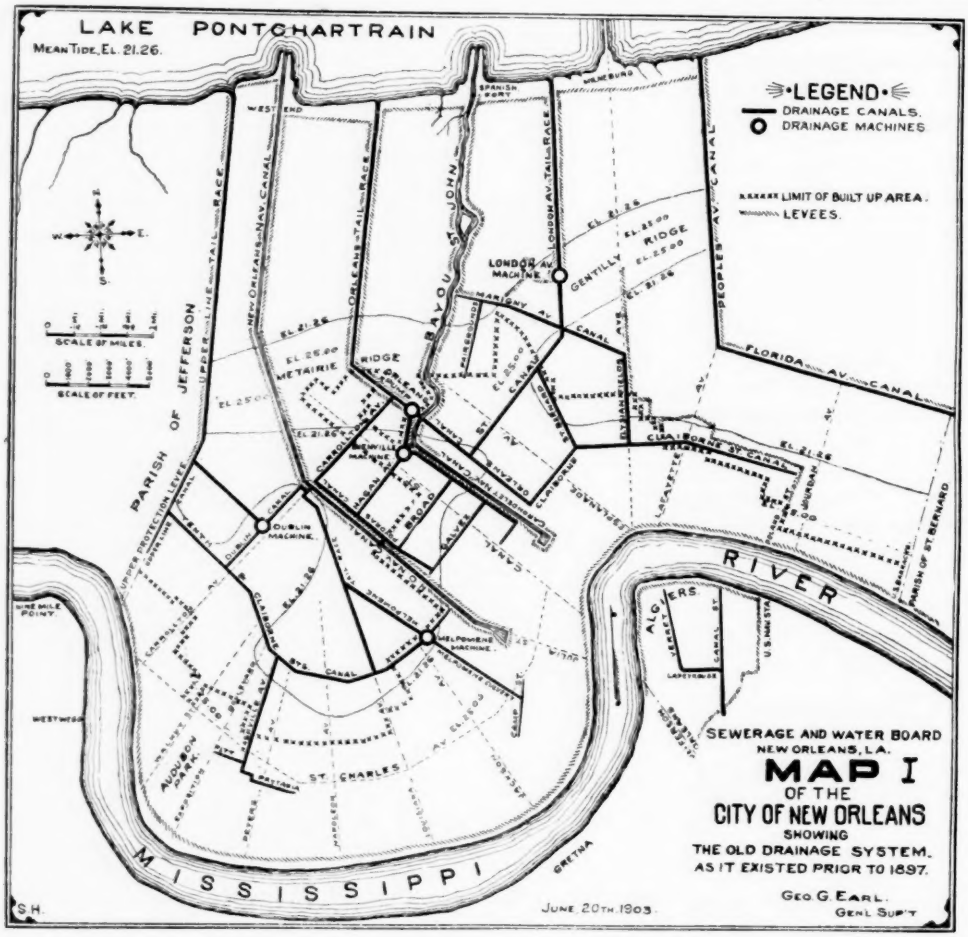
The northern boundary of the city is Lake Pontchartrain, which is really a shallow arm of the Gulf of Mexico, slightly brackish and affected by gulf tides which have a fluctuation of only a few inches daily, but under the influence of the winds have an extreme range of nearly six feet, from two feet below to four feet above mean gulf level. Lake Pontchartrain is a beautiful sheet of water. Several pleasure resorts lie on its shore within the city limits, and the navigation of its waters for both business and pleasure forms an important part of the life of New Orleans. Leading from the lake into the city are two navigation canals in which, also, the water stands at gulf level; at high lake tides their water surface is as much as five feet above portions of the city through which they pass, levees only preventing overflow.

Between the river and the lake, and about two miles back from the lake shore, is a narrow area, one-fourth of a mile wide, crossing the city, marked Metairie ridge and Gentilly ridge. This ridge is the handiwork of an old bayou which at one time traversed it, and which, by the overflow of, and deposit from, its silt-laden waters, erected this barrier, just high enough to prevent high lake tides from flooding the area to the south of it.

This ridge and a strip averaging about a mile in width on the immediate bank of the river, make up the only area which really has a natural drainage. It covers 5,000 acres, or about eight square miles. Even this area averages only about nine feet below mean gulf level and ten feet below the high-water mark of the river. On either side of Metairie ridge, sloping away for

a short distance, the land is between mean and high gulf level (as far as the fine black lines on the map marked "elevation, 21.26"). To the north of this the land lies at or below mean gulf level, and is mostly unreclaimed swamp, as marked on Map IV. This area is about 5,000 acres, and for the present, in sewerage and water calculations, it can be ignored.

South of Metairie ridge we have nearly 15,000 acres, or twenty-three square miles of area; of this, 6,000 acres, or about nine square miles, lie at or slightly below mean gulf level. Under natural conditions, this would be always flooded. Four thousand acres, or about six square miles, lie above mean lake level but below the high-water mark in the lake, and this would also, under natural conditions, be flooded whenever an extremely high-water occurred in the lake.



A line of crosses defines the rear boundary of what may be called the present built-up area of the city. Between this line of crosses and the Mississippi river practically the whole present population of the city have their habitations. The area of this populated territory is nearly thirteen square miles; it has 400 miles of streets and a population of over 300,000 people.

Considering the conditions as just outlined you will not be surprised to note that the high zone nearest to the river bank is that which has attracted nearly all of the population, and that the remainder is either on the intermediate, or else concentrated within lower areas in which artificial drainage has been most effective. The heavy black lines on this map show the only main drainage arteries which existed prior to 1892, and the black circles the pumping stations which had to lift all of the drainage which came to them from their river, or low side, into leveed outfall canals, sufficiently above lake level, on their lake side, to cause a discharge into the lake. These pumping stations were nothing more nor less than great undershot water wheels which were worked backward by steam engines, and paddled the water which came to them forward and upward.

The canals from which and into which these wheels pumped were practically level, shallow earth canals, and the vertical distance through which the wheels could lift was very small. The capacity of the wheels was insignificant in proportion to the vast amount of drainage which they had to handle, and the canal system, as you will notice, was confined to the low areas, the natural slope of the ground from the river to these low areas being depended on to deliver storm water to the canals through open gutters on every street leading from the river directly back to them.

So far as the populated area of the city was concerned, this system of storm water drainage was purely a surface system with open gutters, broad, flat and deep, on every street perpendicular to the river and crossing every intersecting street by surface culverts. Into these gutters liquid household wastes had to be discharged, and in dry weather such wastes were insufficient to cause a current, so that what was practically sewage (since it contained every element of sewage save water closet discharge) lined every street in stagnant pools. With great rainfalls, which are frequent in New Orleans, the waters from the upper end of each street, moving down from the steeper grades along the river front, soon overtook that which was collected where the slope begins to flatten out and the accumulated flow would speedily fill each street from curb to curb, and often from property line to property line; or even worse, being checked at each intersecting street by the necessity for passing through culverts with greatly restricted areas. It would often require several hours for even that portion of the city which really has sufficient elevation for natural drainage to be freed from overflow, while the low areas, as indicated by the vertical lines on the map, being altogether dependent on the pumping stations, would have to wait as many days before the drainage wheels could reduce the general water level to a point that would expose their natural surface and bring the water within the banks of the canals, as shown on the map.

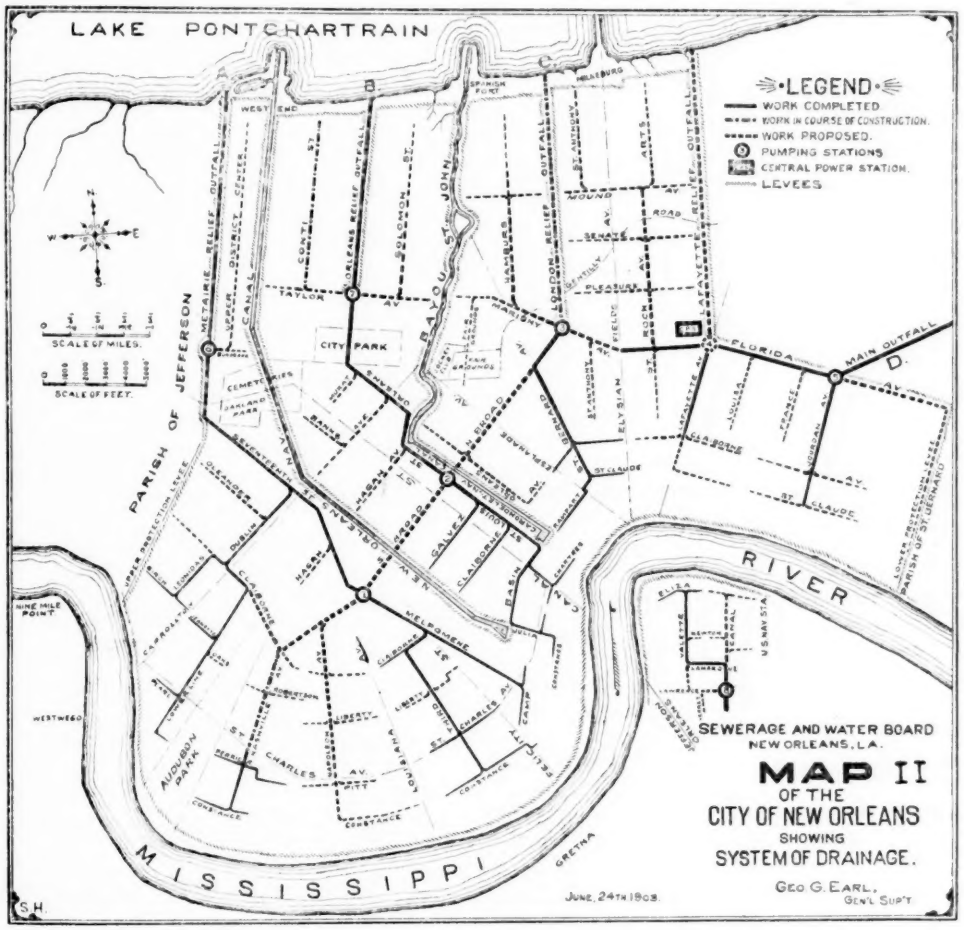
It might be of interest to note that on the day when the people of New Orleans had to vote on the question of a bond issue for sewerage, water and drainage construction, Jupiter Pluvius, who appears here to be chronically unpropitiated, arranged matters so that

rafts, boats, hipboots and hacks were the order of the day. The vicious temper of the potentate above named toward New Orleans has been continually exhibited in acts both of commission and omission. The city gets at his hands an average of sixty inches of rainfall per annum; more than any other large city in the United States, and a great proportion of this unusual total rainfall he crowds into special seasons, days and hours with unprecedented rates; like a half-inch in three minutes, or one inch in ten minutes, or three inches in an hour, or eight inches in six hours; while at other seasons for weeks and even months he permits the dust to blow in our faces and accumulate on our roofs, and allows 60,000 elevated tanks of cypress wood (cisterns collecting roof water) on which the city depends almost exclusively for her water supply, to go dry and shrink until their open cracks show daylight through and through.

The partial construction of the drainage system which will be outlined to you with the next map (II) has greatly relieved the situation as to surface drainage, but with regard to sewerage and water supply New Orleans is as she has been for many years. As to sewerage, there is as yet no sewerage system. Fecal matter is deposited in shallow open pits with porous bottoms. Some of these are partially emptied occasionally by sanitary excavating companies who transport their contents in barrels to a point below the city limits and dump it into the river. Immediately after cleaning, these vaults are particularly offensive. In ordinary operation they appear to resemble the modern septic tank, and so long as they do not receive the greatly diluted flow which water closets yield they are not really bad and very rarely overflow. When, however, water closets are connected either to these vaults or to cesspools sunk deeper into an already saturated soil, then trouble begins and constant emptying at considerable cost discourages the owner, who finally constructs shallow drains near the surface, into the surrounding soil, or in a more direct, though unlawful, way allows overflow into an open gutter.

All kitchen, laundry, bath and other liquid household wastes go direct to surface gutters through flat and shallow alley gutters or pipe lines, and are what render the New Orleans gutter the reproach which it is, and which only a sewerage system can relieve.

In the matter of a water supply, the only other system than cisterns now serving in that capacity was constructed in 1836 and has been from time to time extended until it now covers some 125 miles of streets. The supply is taken from the Mississippi river, and without any purification whatever is delivered directly to the consumer. On an average the Mississippi river contains over two and one-half tons of mud for every million gallons of water. Unpurified, it is unfit for almost any use except lawn sprinkling, and between its comparative uselessness and its rather excessive cost it has gained but small patronage, having only about 5,000 premises connected with it. To be fair to the waterworks company, however, it should be said that the small number of consumers, and the large waste, by the city especially, has compelled the high rates, while the problem of an economical purification of a water of this character is one which has not been at all certain of solution until within a very few years past. The waterworks company made an effort at filtration in 1892 which proved an expensive failure, and thereafter (possibly quite naturally) claimed that the burden of proof as to an economical and successful method remained with those who still urged such purification on them.



In 1892 a franchise was granted to a private company for the construction and operation of a sewerage system, and a year of two afterward arrangements looking toward the drawing of plans and raising of money for drainage construction were inaugurated by the city. Mr. L. W. Brown was then city engineer, and was largely instrumental in getting work on drainage plans started. A strong advisory board of engineers was appointed, consisting of Mr. Rudolph Hering of New York and Messrs. B. M. Harrod and H. B. Richardson of New Orleans. Along lines suggested by this advisory board, and under Mr. Brown's supervision, surveys and investigations were made and eventually a general plan for drainage was recommended and adopted. Map II shows this drainage plan. Its construction has been about half completed at a cost of about $4,500,000.

The central power station is shown by a black hollow rectangle on the map. It contains eleven boilers and seven engines and each engine is connected with an electric generator. The combined capacity of these generators is 5,700 horsepower at the central station switch board, where the electric current destined for the operation of the several pumping stations is controlled.

From this switch board at the central power station lines carry wires to six different pumping stations called respectively No. 1, No. 2, No. 5, No. 6 and No. 7, shown on map by hollow black circles with designating number enclosed. At each of these pumping stations large motors are directly connected with immense centrifugal or screw pumps (depending on the lift required) and are operated as occasion requires by the electricity generated at the central power station.

As now operated, except for the common source of power, there are four separate and distinct drainage systems serving as many districts of the city and finding outlets at points marked on map respectively A, B, C and D, the first three outlets being into Lake Pontchartrain and the last into Bayou Bienvenue, which leads to Lake Borgne, some ten miles east of New Orleans.

The general scheme of operation is the same in each

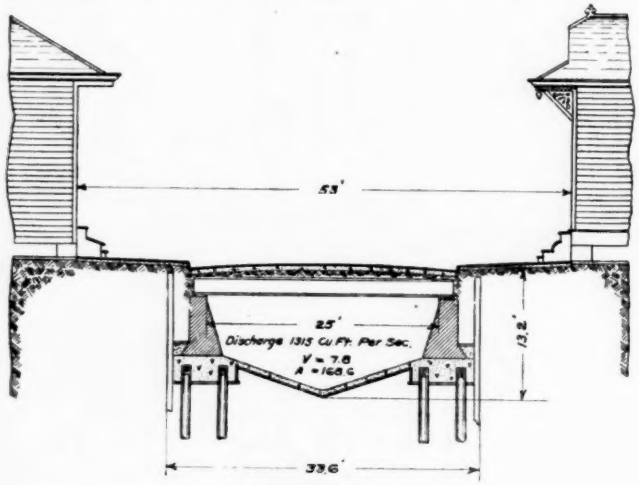


Figure 1.

of these systems, and a brief description of the system having its outlet at "B" will give the method of operation of the other systems as well.

Starting from the higher area along the river front, storm water flows down the gutters or drains of each street until it reaches the first line of collecting canals which run at right angles to and across the lines of natural drainage and intercept all of the flow which comes to them; further along similar intercepting canals collect the drainage from other areas. These intercepting canals are very shallow and small at their beginnings, but increase in size as their length increases; the necessity for slope to produce flow requires them to increase in depth also, since, in the direction in which they run, the ground is level; being short, however, they are not usually more than about ten feet deep at their junction with the main canals, which latter canals, due to the flow thus accumulated, can carry much larger quantities of water in proportion to their area and at lower rates of fall.

The result of this is that where a great many small gutters running directly to an intercepting canal a mile back from the river front would be overcharged and flood all of the streets through which they passed, the single large channel, properly lined and having the same slope, though far less area of cross section than the combined gutter areas, easily delivers the flow which reaches it to a pumping station much farther back from the river bank.

The St. Louis street covered and lined canal, which terminates at pumping station No. 2 and serves an area of about 1,200 acres, has a capacity to deliver to that pumping station 1,200 cubic feet of water per second. It has a flat top, is twenty-five feet wide, six feet high at side and eight feet at center, with "V"-shaped bottom.

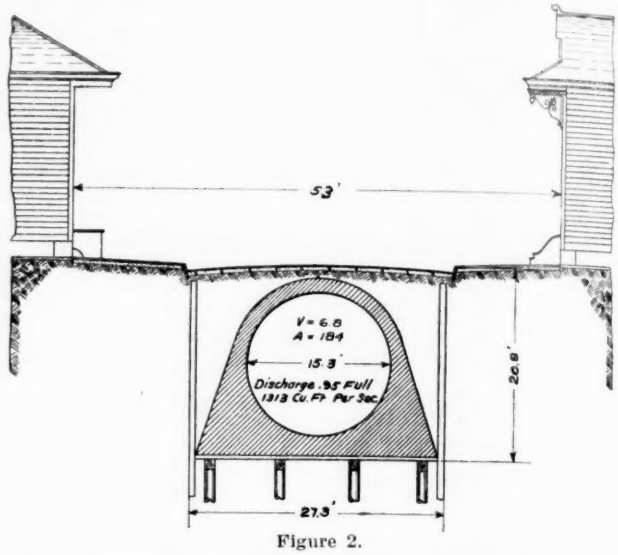


Figure 2.

A cross section herewith presented (Fig. 1) shows the construction of this particular canal, and alongside of it a circular sewer fifteen and three-tenths feet in diameter of equal discharging capacity (Fig. 2). You will notice that the canal section as adopted for New Orleans does not require nearly so deep an excavation as the circular section, depth being an important element, both of first cost and cost of operation where deep trenching

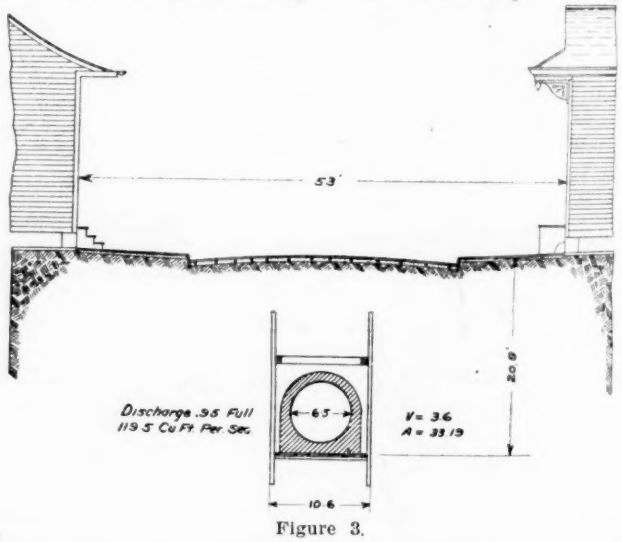


Figure 3.

is expensive and every foot of fall gained by such depth adds a foot of lift later to be made by pumping.

A third, much smaller circular section (Fig. 3) represents a circular sewer, six and one-half feet in diameter, whose carrying capacity, with the same slope, is found adequate to serve the needs of an area of similar size, density of population and surface conditions, in Chicago, as that served by the St. Louis street canal in New Orleans.

The great difference in size, and very much greater difference in carrying capacity in the St. Louis street canal, 10 to 1 as compared with the smaller circular section, represents an immense difference in cost, and is necessitated by the vastly greater rate of rainfall to which New Orleans is subject.

At station No. 2 an artificial outlet for the St. Louis street canal is created by pumping the water which it delivers to that station into the canal on the lake side of it. For the present, two screw pumps having a capacity to lift 250 cubic feet of water per second through a vertical distance of five feet are installed at this station. Future installations, according to the original plan, will raise the pumping capacity to serve this area to over 1,200 cubic feet per second, the 500 cubic feet capacity now existing has already been overcharged, though only part of the area is as yet paved, with a great percentage of impervious surface and adequately served with such local drains as must ultimately exist in order to give prompt and satisfactory delivery of the surface waters from each separate locality into the drainage canals. Improvement in these conditions can only come slowly with the development of the city, with perfected street pavement, etc., all of which tend to bring larger maximum rates of flow into the various parts of the main drainage system.

Having been lifted five feet at station No. 2, the water is carried by an open and unlined canal through a sparsely built area to station No. 7. In order to carry the required quantity of water and still maintain the surface of water in this open canal at a level that will admit of the inflow of the drainage from the area through which the canal passes, pumps at station No. 7 must remove the water which comes to them as fast as it comes and discharge it into the outfall canal on the lake side of the said station; beyond this point no further aid from pumping is available, and the pumps at station No. 7 must be able to completely empty the canals which drain to them into the lake level outfall canal which leads from them, i. e., to make a lift at times of as much as sixteen feet, although the greater part of the volume of water which they raise is not lifted nearly so far.

The present discharge of all storm water into Lake Pontchartrain is a temporary measure; the final plan of drainage, when completed, will divert all of the constant flow, and flow from even moderate storms, into Bayou Bienvenue and thence to Lake Borgne, ten miles east of New Orleans, where the deposit of street washings carried by the drainage system can do no harm.

This very desirable result will be accomplished by a series of canals joining pumping stations 1, 2, 3 and 5; said stations then, under ordinary conditions, will operate as follows:

All waters reaching station No. 1 will be raised into a canal leading to No. 2; all waters reaching No. 2 will be raised again into a canal leading to No. 3, etc., until station No. 5 is reached, when a much higher lift will be made into a level outfall canal, at gulf level, leading to Lake Borgne via Bayou Bienvenue.

Such a series of canals and pumping stations, in order to dispose of the future maximum run off from occasional excessive storms, would have to be of large proportions, and a careful study of the situation finally resulted in a recommendation that provision for about three-eighths of the maximum future run off be made toward Lake Borgne while the remaining five-eighths would be sent through relief canals into Lake Pontchartrain. Only two or three storms a year, possibly, would then find a partial outlet into Lake Pontchartrain, and the relative total amount of water and street washing so discharged would be of no practical effect, while the saving in cost both of construction and operation by such a disposal of occasional surplus waters was a very large amount. For the present the city is unable to undertake the Lake Borgne outlet, and all drainage is through the relief canals into Lake Pontchartrain, as above outlined.

The drainage pumps may be divided into two classes: Those which pump into outfall canals, thus making final disposal of the water which they pump, and those which make intermediate lifts delivering their discharge toward the final disposal stations.

The adopted plan of drainage, as outlined in the 1895 report, calls for an ultimate equipment of final disposal pumps that will have a discharging capacity of over 8,000 cubic feet per second; the present installation of pumps of this class amounts to 2,600 cubic feet per second, nominal capacity (the actual capacity is somewhat greater because the pumps are not called on to throw their maximum capacity and make their maximum lift at the same time, and can throw somewhat more than their rated capacity when working under lower heads).

In the matter of intermediate lift pumps, about 10,000 cubic feet per second capacity is the maximum ultimate requirement, and the present installation has only a capacity of about 1,100 cubic feet.

An adequate idea of present and future total pumping capacity as above outlined may be obtained if you will conceive that the water from all the pumps is frozen in the form of one continuous prism ten feet square as it leaves them; the present discharge would give you nearly half a mile of such prism every minute, while the ultimate rate of discharge would construct your prism at a rate of over two miles per minute.

The proposed drainage system will have about sixty miles of canals. Into these canals storm water from about 700 miles of streets south of Metairie ridge must be delivered. Proper readjustments of gutter grades and laying of subdrain pipe and street paving will eventually perfect this essential feature of improvement, but this development will be tedious and expensive, and can not cover fully every inhabited portion of the city for years to come; even if it could the drainage system of New Orleans could not properly receive the dry weather flow of house sewage for the following reasons:

First, the subdrainage arteries would be too shallow to afford a proper fall for house connections to enter them, and must themselves be so large and flat that the small stream of fouled liquid wastes could not be successfully carried in them, but would form deposits and putrefy.

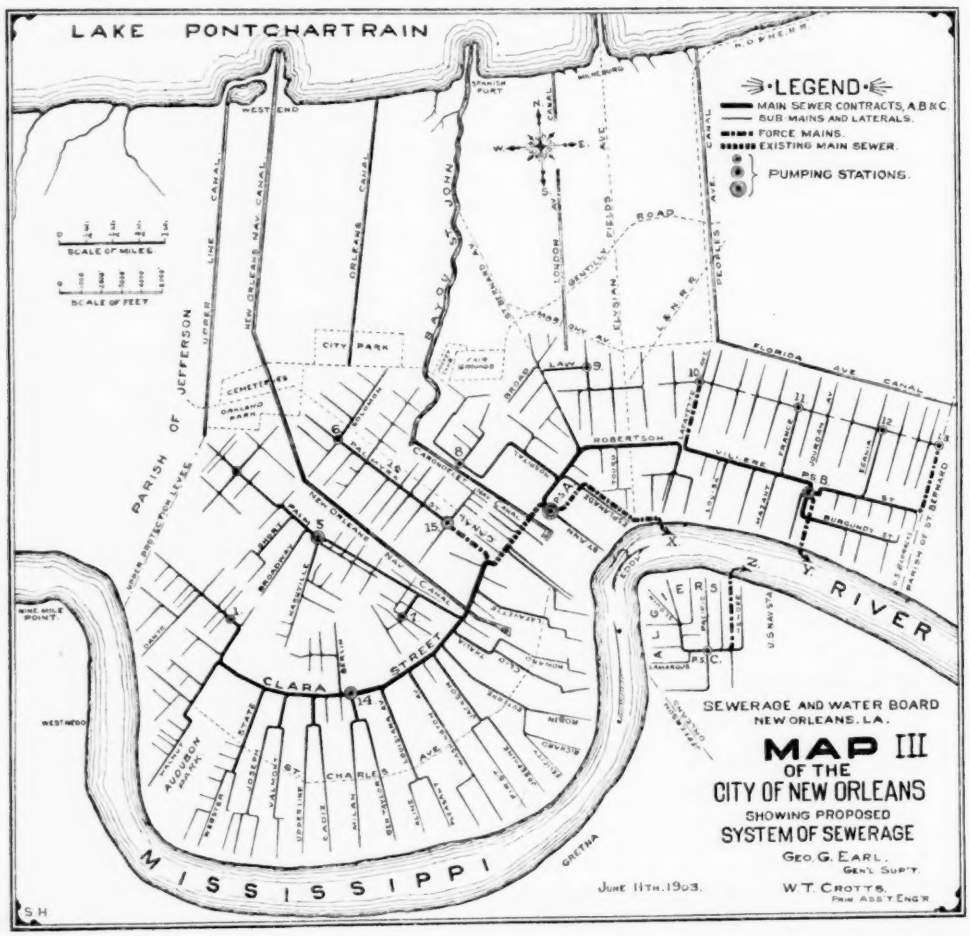
Second, the outfall canals of the drainage system would, in dry weather, be converted into elongated open cesspools of the most objectionable type.

For these reasons the sewerage of New Orleans is a separate problem and because it must deal with the fouled water originating from the water supply, and passing away as domestic wastes the two problems have certain vital points in common. There is no possible source available for a gravity water supply, and no possible point for a natural gravity sewage outlet; therefore, pumping must be resorted to for each, and all costs, both of construction and operation, hinge on the question of "how much water per capita shall be assumed in designing the systems."

The average water consumption has been assumed at 100 gallons per capita per day, and the water distribu-

tion system has been designed on this basis, making due allowance for the usual fluctuations of demand incident to the needs of the community, including a fair allowance for fire extinguishment. The next common question is area of territory to be served and density of population on that area. We have drawn both water and sewerage plans to serve the twenty-three square miles of area south of Metairie ridge when said area shall contain 850,000 people. At present thirteen square miles of this area contain about 300,000 people, and the remainder is mostly open. Present construction in both sewerage and water-works systems will only cover the well-populated area.

Turning now to Map III, I will very briefly describe the sewerage system as now proposed. I should say, first, that the private company which undertook a sewerage franchise in 1892, after spending nearly $300,000 on plans and construction, went into the hands of a receiver, and its works and rights were finally purchased by the city in 1902.



A sewerage plan naturally centers about and depends on the available point for outfall, or disposal of sewage. For New Orleans, beyond any possible doubt, the Mississippi river is the proper point for disposal. By a discharge of sewage, below its surface, into its direct current, almost infinite dilution is accomplished and, provided your point of discharge is not into, or above the eddy, you have also instant and continuous removal.

The map shown indicates the lowest considerable eddy existing in the river at New Orleans, and any convenient point below this eddy, on either bank of the river, will receive and effectually remove the sewage of the city. Points on this map marked "X," "Y" and "Z" are the points at which the sewage will be discharged into the river, and points marked "A," "B" and "C" show locations of the pumping stations at which the centrifugal pumps will drive the sewage into castiron force mains leading uphill to the river. The maximum lift which any of these pumps will make will be fifty-five feet.

At station A, where most of the sewage will be collected, the pumps will be operated by steam power and there will be located there also electric generators that will furnish the power to run all of the other pumping stations required for intermediate sewage lifts in the system on the east bank of the river and indicated by circles on the map, numbered from 1 to 15, inclusive. These intermediate lift stations will be connected with station "A" by wire lines laid under ground as the sewers are laid, and will be very small affairs; merely wells into the bottom of which a low level sewer will enter, and in which motor-driven centrifugal pumps, arranged to stop and start automatically with the rise and fall of the sewage in the well which they occupy, will lift the sewage some eight or ten feet and discharge it into another sewer at a higher elevation.

The proper location of these pumping stations, and the most advantageous and economical arrangement of the collection system leading to them, is the whole secret of sewer design for New Orleans. Years of study have developed the system as outlined on the map shown; every available foot of natural fall is used to the utmost, and the principle of concentration of flow as outlined in connection with the drainage plan is applied with immense advantage.

The map before you only gives the main lines into which the flow from the local areas is concentrated.

As designed, 87 per cent. of the total mileage of sewers will be eight-inch laterals laid with a fall of one foot in 300 feet, with their tops nowhere less than five feet below the surface and seldom more than nine feet below the surface. At each dead end (i.e., the head of each lateral sewer) an automatic flush tank will be placed, which will be gradually filled with clear water from the water-works system, and once every twenty-four hours will discharge all at once some 250 gallons of water, thus creating a cleansing current at the extreme upper end of each lateral sewer. Beside the sewage proper and the flow from flush tanks the sewers will also receive a considerable amount of ground, or seepage water which, no matter how carefully the joints are made, will find its way into them. In calculating the size of the sewers we have estimated that about one-third of the annual rainfall will gradually sink into the soil and run off through the sewers as a constant ground water flow. The under-drainage of the soil thus ob-

tained will be of advantage from every point of view, decreasing the saturation of the soil and guaranteeing, even during the early life of the sewers, a sufficient volume of flow to procure good velocities.

The system as designed, when working at its full capacity, or even when the sewers are half full, will carry sewage at gradually increasing velocities, ranging from two to three and one-half feet per second, from the most distant portions of the system to the final disposal pumping stations. Every pumping station will create, continually, an artificial low outlet for all of the sewers draining to it, and the flow in the sewers themselves will be only due to their fall, and as certain as the laws of gravity which hold, even for New Orleans. The very longest line of travel from point of origin to river outlet will be 7.8 miles, and this distance will be covered in less than five hours, before putrefactive changes have had time to manifest themselves, in channels which are smooth, clean, well ventilated and designed exactly to perform most efficiently the one particular object of sewage removal.

The question of a water supply begins naturally at its source. For New Orleans there is simply no possible gravity source of supply. Local artesian waters are bad in quality, inadequate in quantity and beyond consideration in the cost of either constructing or operating a system of water supply for a large city.

North of Lake Pontchartrain there are several water sheds, already referred to, which would furnish, or could be developed to furnish, a very desirable water supply of soft and reasonably clear water. Local population on their area and a certain amount of color, of vegetable origin, and of fine silt in suspension would necessitate filtration for any one of these waters, but they would not be difficult to filter. The nearest and cheapest of these projects, however, would require a pipe line forty miles long, mostly through a gulf level marsh. The delivery of forty million gallons per day through a forty-eight inch pipe line for such a project would necessitate the construction and operation of two pumping stations, each capable of lifting water 220 feet to overcome the frictional loss in the level pipe line and deliver the water into a tide level reservoir at New Orleans, after which filtration and pumping for distribution would still be necessary.

The cost of such a forty-mile pipe line and pumping stations to force water to the city would be over $4,000,000, or very nearly all that the city has to spend in waterworks construction, so that nothing would be left to construct filters, pumping station for distribution, or a system of distribution pipe over all of the streets of the city; which last-named works stand ready to consume the whole fund available for water-works construction, and without which an abundant water supply in Africa would be just as valuable an asset to New Orleans as though it were at the city line. Evidently the supply from over the lake is beyond present consideration. There remains, then, only the Mississippi river. Its advantages as a source of supply are manifest. It is at our door and inexhaustible; in many respects it is a most desirable water, being low in bacteria, free from odor and color, and cool and pleasant to the taste and showing practically no evidence of sewage pollution. It is, however, not a soft water, since it contains a fair amount of the carbonates and sulphates of lime and magnesia in solution, and it most certainly is not a clear water, being, on the contrary, at New Orleans, almost always very muddy, and a large proportion of this suspended matter is composed of submicroscopic clay particles which it refuses persistently to part with in any reasonable period of subsidence. It was evident to the author of this paper, when he was elected to his present position in 1900, that the problem of the clarification of Mississippi river water must be solved successfully and economically if the present generation was to see an adequate clear water supply in New Orleans. A careful study of investigations lately made at Louisville and Cincinnati looking to the purification of somewhat similar waters convinced him that a study along the same lines at New Orleans could not fail to point a proper solution, and he, therefore, immediately commenced to urge the necessity for such an investigation.

The advisory board of engineers which was consti-

tuted a little later also urged an early investigation in this connection, and the sewerage and water board promptly appropriated the necessary amount of money for its execution. The investigation was carried out under the personal supervision of Mr. Robert Spurr Weston, resident expert, along lines approved by Mr. Geo. W. Fuller of the advisory board of engineers, who had conducted the similar investigations at Louisville and Cincinnati, and resulted in demonstrating an economic and efficient method of purification for Mississippi river water at New Orleans. I understand that Mr. Fuller will present you a paper on water purification, and will leave in his hands any general discussion of this subject, only giving in very hastly outline here a description of the plant which is now being designed to carry out the method of purification which was shown to be most efficient and economical to meet the local requirements.

Map IV shows the proposed pipe distribution system for the delivery of water throughout the city, and at the left-hand side of the plate, along the upper city line, is the proposed location of the pumping and purification plant. Seventy acres of ground will be needed when New Orleans has 1,000,000 of population, and that area will be acquired now. The advantages of the particular location chosen lie in the facts that it takes its water from the river above the city, is near enough to the river to allow of the location of all pumping machinery under one roof, is in proper line and will serve equally well as a purification and distribution station if later it should become advisable to go higher up the river for a supply, or even to bring in water from across Lake Pontchartrain, and that from it better than any other point in the city an economical distribution system, adequate to present needs and extensible to conform with future requirements, can be constructed. The distribution system, both present and future, will have to speak for itself from the map while we trace briefly the outline of the proposed purification and pumping plant.

An intake will be located at the low water shore line of the river, at the upper end of the city. The suction pipe will terminate in this intake, and river water, always taken from near the surface where the turbidity is least, will be admitted into this intake. The suction line from the intake will be a level line nearly a mile long, and laid two feet below the lowest water level in the river. Through this line centrifugal pumps will draw a constant stream of water, containing an average of 650 parts per million of suspended matter and will discharge it at the bottom and the back end of a masonry reservoir ten feet deep and holding about twelve hours' supply for the city; at the other end of this reservoir, from its top, a skimming weir will collect an equal amount of water which will be found to have lost an average of 35 per cent. of its suspended matter by twelve hours of plain subsidence. To this water then a coagulant will be added and, after thorough mixing, the whole will pass into the bottom at the back end of the coagulating reservoirs, where again twelve hours of subsidence will be allowed, after which the effluent of these basins will be skimmed into a collecting conduit leading to the filters. The rate of application of coagulant will be so proportioned that when the water reaches the filters not more than 50 to 75 parts out of the original average of 650 parts per million of suspended matter contained in the river water will be carried over and this last contingent of persistent turbidity will have been so altered in its form that, whereas in its original condition a very slow passage through a thick layer of fine sand would not have removed it, in its present condition even rapid passage through a thin layer of relatively coarse sand will suffice, not only to remove the last trace of it, but to enmesh as well a very high percentage of the bacteria which the water contained. As coagulant, sulphate of alumina will probably be used, an average of about four grains per gallon of water being required.

The filters are merely thin layers of sand underdrained each to a single discharge pipe terminating in an automatic controller by means of which the rate of passage of water through the sand layer is regulated. When the sand layer becomes clogged by the retained suspended matter the filter is cut out of service and cleaned, first by forcing air and then filtered water at a very high rate backward through the sand layer, thus loosening and removing the deposit which is collected by overflow into channels just above the sand layer and drained off into a sewer. Three or 4 per cent. of the water filtered will be required for washing the filters. Beneath the filters will be a small clear water basin from which the water will flow to the pumps which will either force it directly into the mains of the city distribution system, under a pressure of about ninety pounds per square inch, or else raise it into covered clear water reservoirs where it will act as a reserve supply to tide over periods of greater demand when the flow from the filters is insufficient.

A year's operation of the system, just above roughly outlined, during our investigation never once failed to yield continuously a perfectly clear water which satisfied every practical hygienic test for purity, and there is no reason why an intelligent operation of a larger plant should in any degree fall short of equally good results. The process, however, requires a high grade of supervision, if its best results, both in cost and quality, are to be obtained.

The foregoing attempt to cover the three topics of the sewerage, water and drainage of New Orleans in brief descriptive form, within a compass that would really be too short to even treat adequately either project, has necessitated the utmost simplification of even the general subjects, and the passing over of all detail.

These works, to accomplish ends long held to be impossible by many citizens of New Orleans, have really been reduced to such simple and certain general form that their successful operation is now beyond question. All three of the plans are the "boiled down" results of many more pretentious efforts. The simplicity of general features is their greatest strength.

Many details are less simple, but it is probable that further study and the application of experience gained elsewhere up to the time of complete construction will result in a further simplification even of such details. Especially is this true in the water purification plant, which plant, as applied to waters of the character of the Mississippi river water, represents an art whose birth and development is of the last decade, and one in which for some years to come, at least, every effort must bring added evidence for the more positive determination of the large number of variable factors which must be most advantageously combined to produce the best results at the least cost.

We are certain that we can purify Mississippi river water at an additional total cost for purification of not over one and one-half cents per 1,000 gallons. This seems a very modest sum and if quoted at the cost per pint it would sound even better, but a great city uses millions of gallons, and in our case for 40,000,000 gallons of water it amounts to $600 per day for the removal

of about 100 tons of mud and 98 per cent. of the bacteria. It is well worth the cost, and more if necessary, but very small items of improvement as they can be developed aggregate immense savings and are, therefore, decidedly worth while.

The total expenditure available for sewerage, water and drainage construction by the end of 1908, when the aim is to have practically completed the sewerage and water system, will have been about $18,500,000.

602 Carondelet Street.

DISCUSSION.

Dr. G. T. Swarts, Providence, R. I.—Is there any underground system at all in New Orleans, or is it all open canals?

Mr. Earl—The drainage system is covered and lined pretty well throughout the populated area of the city. However, that only covers about sixty out of four hundred miles of streets, so that, in effect, all of our sewage at present goes to surface gutters, and eventually gets into the drainage canals which intercept the flow from the surface gutters; there being no sewerage system proper, in any sense of the word.

Dr. Swarts—No pipes, drains or brick sewers under the ground?

Mr. Earl—No, sir; except in individual cases, such as the Charity Hospital and a number of places which have force mains running to the river through which they discharge by pumping.

Dr. Swarts—What about the St. Charles Hotel, for instance?

Mr. Earl—It has a force main and pumps its sewage into the river. So also do a number of the leading hotels, the Charity Hospital and other public buildings.

Dr. Swarts—They build, I suppose, below the proposed intake you mentioned?

Mr. Earl—The proposed water-works intake is at the extreme upper end of the city, and everything that goes into the river is below that intake. You know, we have some fifteen miles of river front.

Dr. Swarts—From an engineering standpoint I would like to ask why the pumping stations are placed so far from the river; why should not the pumping be done at the river?

Mr. Earl—It was a question, first, of the acquisition of the necessary area; we have to get land where it can be reasonably acquired, where it is not much built up. Beside, it fits in better in the matter of distribution. From the point chosen you get the shortest line of transmission to your center of population for your large water mains.[1]

Dr. J. S. Fulton, Baltimore—I remember, six or seven months ago, seeing a sample of the water here. It had been standing for some length of time, but had not yet deposited its milky sediment. Will the proposed plan of filtration exclude that in any way? Will chemical precipitation get rid of that sediment or is there any mechanical way of doing it?

Mr. Earl—The fine particles you speak of can only be gotten out by coagulation. Filtration without coagulation fails almost every time to entirely clarify the water, and no term of subsidence will bring out that milky deposit. It is submicroscopic matter that will not go down except by means of a coagulant. After being properly coagulated it is easily removed by filtration.

Dr. Swarts—How long will the filter operate?

Mr. Earl—From 12 to 24 hours between washings.

Dr. Seneca Egbert, Philadelphia—In my humble judgment the city of New Orleans is going at the problem in the right way, and they seem to forestall, as far as they can, the various questions that may arise as the city grows larger. I was especially glad to see that they intend to use the separate system in a large part of their sewerage plan; and the idea of the pumps at the substations driven automatically by electric motor, using power from a central station, was very unique to me. It struck me as a clever solution of a difficult problem. It may have been tried in a crude way before, but I do not know of any place where it is done on such a large scale as here. I think, with the longest lines not over eight miles in extent, they will get a speedy removal, within five or six hours, of their sewage, which means the elimination of a great deal of annoyance, offense and danger from stagnant or decomposing sewage.

Of course, as to the water supply, we have to take their word about the sedimentation, coagulation, etc. It is interesting to learn that coagulation will be used on such a large scale, and also that the work can not be done with the sand filters that are working so well elsewhere, as, for example, in Albany, N. Y. But I understand the problem that confronts this city, and can appreciate this solution of the problem.

1. This question and reply referred to the water works pumping stations. The sewer pumping stations are located on the lines of most economical gravity collection in low areas; from such stations shallow force mains leading to the river are much cheaper than the very deep sewers that would be required if pumping stations were located on the river bank.

Special Article.

THE PURIFICATION OF WATER SUPPLIES BY SLOW SAND FILTRATION.

(*Concluded from page 967.*)

IV.

WATER FILTRATION IN THE UNITED STATES (CONCLUDED).

C. THE PHILADELPHIA FILTER.

The city of Philadelphia has long and faithfully served sanitarians as a text for discourses on the effect of polluted drinking water. Not only has the physical character of the city water, as drawn from the tap, ordinarily been sufficient to excite the repugnance of every stranger who has tarried for a while within the gates, but the citizens of Philadelphia themselves have for years suffered so severely from typhoid fever that the local conditions have been a by-word and a reproach all over the United States. Civic pride, some of which undoubtedly exists in Philadelphia, can hardly contemplate with equanimity the yearly tale of youths and maidens offered up to the Minotaur of ignorance and neglect.

At intervals, during more than a quarter of a century, various public-spirited organizations have employed experts and commissions to report some plan for purifying the water supply and for abolishing the source of so much municipal suffering and disgrace. All these projects, however, although they have been worked out with more or less elaboration and usually with due regard to the state of knowledge concerning water purification at the time of their presentation, have not until very recently received serious consideration by the responsible authorities. About 1898-9 an outbreak of typhoid fever of unusual severity caused even the supine municipal authorities of Philadelphia to recognize the imperative necessity for immediate action.

In 1899 a commission of distinguished engineers appointed by the mayor presented a report recommending (1) the adoption of a project by which the waters of the Schuykill and Delaware rivers should be purified by filtration; (2) the immediate improvement of the existing plant in accordance with the detailed recommendations of their report. This report, in its main features, has formed the basis for the final plan for filtering the entire city water supply, and at this date the construction of a comprehensive filtration plant is well under way.

One feature in the situation at Philadelphia demands consideration not so much from its rarity as from its deplorable frequency of occurrence in American cities.

This is the enormous consumption of water as compared with the consumption in all European cities and in some of the more carefully controlled American municipalities. All responsible authorities are agreed that the Philadelphia consumption of 175 to 200 gallons daily per capita indicates excessive waste. When so large an amount of water is demanded by a municipality, the cost of constructing proper filtration works is proportionately enhanced and in some cases may prove an insuperable obstacle to the installation of a suitable plant. It is well known that the consumption of water can be reduced to a reasonable point by the introduction of the metering system and other devices, which tend to diminish avoidable and wilful waste. "Consider, if you please, what would happen to the city gas-works if bills were collected according to the size of the house and the number of fixtures, the charge being the same whether gas was used in an economical and modern manner or whether every jet was lighted and allowed to burn all night and all day long, too, for that matter. You will see that with such a system gas would be deliberately wasted on every hand and the consumption would increase to several or many times the normal and proper amount. As the works would not be operated at a loss the rates would be raised to cover the needless use of gas and would be much higher than would be necessary under economical conditions. This condition of affairs is so absurd that it is difficult to give it serious consideration, but it is precisely what is being done in the water department, in spite of the urgent protests and appeals of the present chief and of his predecessors for the substitution of a more rational and business-like basis."

The plans for the yield of water from the Philadelphia filters are on a most liberal scale, and if reasonable measures for the restriction of water waste are gradually introduced the cost of filtration to the citizens of Philadelphia should not on this ground prove excessive. The city of Philadelphia has in the past derived its water from the Delaware and Schuylkill rivers, over 90 per cent. of the supply coming from the latter source. The Schuylkill river has been the recipient of sewage not only from a rather densely populated watershed, but from important suburbs of Philadelphia itself. A large amount of the drainage from these suburbs has been permitted to enter the river only a short distance above the city waterworks, and, although attempts have been made to lessen this pollution by the construction of intercepting sewers and in other ways, recent investigations and occurrences have shown that the Schuylkill is still grossly and dangerously contaminated. In addition to receiving a mischievously large amount of sewage, the Schuylkill is most objectionable from the point of view of its mineral constituents. Near its source it receives sulphuric acid from the oxidation of the sulphid of iron in the coal, and this sulphuric acid is neutralized during the passage of the river through extensive limestone formations, so that the reaction of the river water, on reaching the city, is excessively "hard" and unsatisfactory. The river also passes through a soft red shale which is easily disintegrated and at certain times contributes its quota of suspended matter to the stream. Mr. Trautwine, who was for some years chief of the bureau of water, writes as follows concerning the mineral matter in suspension:

> In times of flood this formation (the red shale) sends vast volumes of its substance in suspension into the stream, which at such times runs blood red. The first effect of a general storm is therefore a visitation of red mud, which a day or two later is followed by water charged with coal dust. The writer has seen water drawn from faucets in Philadelphia, after storage in the city reservoirs, so black from coal dust as to be scarcely distinguishable from ink.

The serious character of the task thus confronting the citizens of Philadelphia and the necessity for radical action can be readily appreciated from the facts just given. The custom of supplying an inordinate quantity of water, combined with the unfortunate character of the Schuylkill, both as regards mineral and organic constituents, caused the path toward water purification to bristle with unusual difficulties.

A very fortunate solution of the problem, albeit an expensive one, has been found. This is nothing less than the virtual abandonment of the Schuylkill as the source of the main city supply, recourse being had to the Delaware river for the major portion of the new supply. This involves practical reconstruction of a large portion of the distribution system and entails the reorganization of the whole system of expensive reservoirs and pumping stations. Taken in addition to the cost of filter construction proper, it will be seen that the expense of the whole sweeping improvement will be indeed formidable.

Filter beds are now being constructed in four separate localities: (1) At Belmont on the west bank of the Schuylkill, comprising eighteen filter beds and designed to supply West Philadelphia, a region of the city which in the past has been a severe sufferer from typhoid fever. Ultimately 26 filters will be installed at this point. The water for this plant is taken from the Schuylkill. Ample space is allotted for a sedimentation basin and a pure water reservoir, and space is available for the extension of the system when necessary. (2) Lower Roxborough, on the east bank of the Schuylkill, is equipped with five filter beds which have been in operation some months. (3) Upper Roxborough, a plant of eight filters, some of which are now in operation. The upper and lower Roxborough stations are designed to supply the Germantown district. (4) The main filtering plant in the new system is at Torresdale on the Delaware river, well above the influence of the city sewage and in a district adapted for filter construction. Here an enormous plant of fifty-five filters is being installed, with prospects that ten more filter beds will be contracted for in the near future. The total capacity of the Torresdale works, after preliminary rapid filtration of the water, will be 248,000,000 gallons daily.

The method of construction is substantially the same at all of these stations. The first filter beds built, those at lower Roxborough, are about half an acre in area and are somewhat smaller than the later filters, those at Belmont and Torresdale being about three-fourths of an acre each. Full advantage has been taken of the experience gained in the construction and operation of the Albany filter and several improvements suggested by recent American experience have been carried out. The filters are all covered, and both piers and vaulting are of concrete, a construction device that marks an advance over the brick piers laid at Albany. Great care is being taken at Philadelphia in the arrangement of the graded layers of gravel, five layers, ranging from six inches to one inch in thickness, being used. An ingenious and most economical contrivance is being employed at Roxborough for removing the scraped sand from the surface of the bed to the central court, where it is washed and stored. In the older works the "scrapings" are wheeled out in barrows. The new sand-ejector invented at Philadelphia, by means of which the sand, shoveled into a hopper

directly from the surface of the bed, is conveyed by a stream of water to the outer court, ought to diminish very greatly the expense of operation.

During the course of the work many experiments have been made under the direction of Mr. Hill, chief engineer in the work of construction, and some of these led the officials to believe that by subjecting the water to preliminary rapid filtration through layers of gravel, slag and sponge it will be possible to operate the slow sand filters at a rate far beyond that which is customary when raw surface waters are applied directly to the sand beds. It is even believed that as high a rate as 6,000,000 gallons daily per acre can be reached after this preliminary treatment. If the event justifies this hope, the filtering surface needed to supply the city, even with its present exorbitant demand, can be greatly reduced. It is estimated that the Torresdale filter-beds alone will supply more water than is obtained by the city of London from all sources, over twice the daily consumption of water in Paris and four times that in Berlin.

The general opinion prevails among informed engineers that the construction of the Philadelphia filter plant is being conducted in a careful and efficient fashion, and that when the works are completed they will compare favorably in point of good construction with any similar undertaking. It is most unfortunate that, together with this belief in the high character of the work as actually performed, there should be a very general feeling that the price paid for the work by the city is inordinate. Rumors of favored contractors, of large "rake-offs" and of a general atmosphere of "graft" are so common in connection with the discussion of the Philadelphia situation that one is reluctantly compelled to lend them credence. It is, for example, a well-known fact, and one that is openly discussed, that all employes engaged in the work are assessed for "campaign funds" on a graded scale. It is said that 1 per cent. is levied on salaries up to $1,200, 1.5 per cent. on those up to $2,000, 2 per cent. on those from $2,000 to $2,500, and that even those holding high positions are not exempt. It is alleged on excellent authority that promotions are controlled absolutely by political influence, and it is claimed that some of the ablest engineers engaged in the work at the outset have been gradually driven out by a swarm of political appointees. It is surely unfortunate that so great an undertaking, involving the coöperation of many scientifically trained engineers and investigators, should thus suffer from being dragged in the slime of politics. The situation is one of general interest and concern. It is not a matter of merely local importance that the Philadelphia filter plant should be costing so much more than it ought to legitimately, but the event affects all cities interested in water purification, since a large expenditure at Philadelphia will be used as an argument for opposing the introduction of purification methods into other municipalities, on the ground of the costliness of the undertaking.

Museum Appliance.

ROUND OR SQUARE JARS FOR MUSEUM SPECIMENS.

D. S. LAMB, M.D.,
Army Medical Museum.
WASHINGTON, D. C.

An objection and, so far as I know, the only objection to the use of round jars for museum purposes is that the round jar distorts the view of the specimen. After many years experience in museum work I believe that the objection is more theoretical than real; practically there is no difficulty in getting a satisfactory view of specimens in round jars. The same objection, of course, would hold against the "Buchhold" preparations and against all specimens mounted under bell glasses. I believe, however, that in these cases also one who examines the preparation is brought so near it during the examination that the distortion is practically unrecognized.

On the other hand, the round jar has many advantages which I believe far outweigh its one disadvantage. The following may be mentioned:

First, the simplicity of the round jar, consisting as it does of but two parts, the jar proper and lid, both made of glass. The lid is ground so that it closely fits the mouth of the jar and thus prevents the entry of dust and evaporation of the preservative fluid. The matter of evaporation is of importance for some fluids, especially alcohol, but of little moment where hygroscopic fluids like glycerin are used. The square jar is fitted with a glass or metal top or cover which is either cemented tightly to the jar or not; if it is, it of course prevents entirely the removal of the contents of the jar. Otherwise the top is clamped to the jar by means of two metal or wooden screws. Some jars have also a bottom plate which is fastened to the top plate on each side by two pillars and these are made tight by nuts. To prevent evaporation and keep out dust, a rubber pad or ring is inserted between the plate and jar; and if there is also a bottom plate another pad is inserted there to avoid the shock of the jar against the plate. It hardly needs to be mentioned that the square jar is complicated as compared to the round jar.

The second advantage of the round jar is the ease and rapidity with which it may be cleaned and emptied. The cleaning is as simple as is the construction; its contents can be quickly changed and its contained specimen can be removed and replaced in a moment.

To keep the metal work of the square jar clean and bright would be a task indeed in a museum of some thousands of jars. The brass mountings quickly tarnish and indeed at the best the jar with its mountings lacks the beauty and grace of the round jar. And to change the contents or remove the specimen from the square jar requires the unscrewing of the clamps and removal of the rubber pads. Sometimes the screws are rusty and the rubber often adheres to the glass so firmly that it has to be torn away and is ruined in doing so. It must be stated in fairness that sometimes the lid of the round jar sticks closely to the neck and requires to be tapped with a mallet to be loosened.

Third, an objection to the rubber pad and ring is that some preservative fluids act on the rubber, rotting it and causing not only a discoloration of the fluid itself but a permanent discoloration of the specimen.

Fourth, the round jar has attached to the under side of its lid a hook on which the specimen may be hung by a thread; the removal and replacing of the specimen is thus made easy. Nothing could be more simple. The absence of the hook from the square jar (for it is usually absent), renders it necessary many times to make a glass frame to which the specimen may be attached; this frame is of course very liable to be broken, in which case a new one is necessary.

Fifth, the round jar adapts itself to the shape of many specimens such as the entire brain and heart to which the square jar is hardly ever suitable; and almost any specimen can be mounted to look well in a round jar. The esthetic effect is of some importance, indeed of much importance to a museum.

Sixth, there is no difficulty in obtaining round jars of clear glass, whatever the size. Most of the square jars in the market are not clear and are not of even thickness, which is a serious objection also, since the wavy and uneven glass must cause some distortion of view.

Seventh, the cost of round jars is, I believe, about one-third that of square jars of the same capacity and of good quality.

It seems to me that a consideration of all the advantages named would give the preference to the round jar, especially in the case of a museum of any size.

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EXAMINATIONS FOR MEDICAL STUDENTS.

The American student, more than the medical student of any other country perhaps, dreads what he calls the "ordeal" of an examination. Teachers and students both, especially in the middle and western states, are apt to inveigh against the evils of examination systems, sometimes, perhaps, without regarding sufficiently the advantages which are derivable from well-conducted examinations. In many medical schools students are subjected to no examinations at all, except a superficial test at the end of each individual course; in other schools there is one great final examination at which the student either succeeds or succumbs, this examination often being limited to the clinical branches alone on the theory that the clinical work necessarily includes a knowledge of the practically important portions of the fundamental sciences; in still other schools yearly examinations are imposed, the student being subjected each spring to an examination covering the whole of the subject matter studied since the preceding October; finally, some few schools and in Canada some of the provincial governing boards have instituted a primary and a final examination, the former covering the work in the fundamental branches of the first two years, the latter the work in the clinical branches of the last two years, a system not unlike the one prevalent in Germany and in Austria.

It is not our purpose at this time to enter into a discussion of the advantages and disadvantages of various examination systems, nor to say anything in detail about the conduct of an ideal primary or final examination, though we may perhaps do so later. We desire, however, to say a word about one feature of examinations for medical students that is too frequently overlooked, namely, the educational function subserved. Too often by both student and teacher it is the selective function of an examination alone which is considered—the examination is regarded as a sieve which lets men whose attainments are of small dimensions fall through. But this selective process ought to be the least important feature of an examination. The main stress should be laid on the educational value of the test. The clearness of thought, the accuracy and brevity of statement, the avoidance of tautology and irrelevant assertion that a properly conducted written examination cultivates, are qualities too often found wanting in the writings of those medical practitioners who have not gone through, as medical students, the careful training that a well-conducted series of examinations can give. Again, an oral examination demands presence of mind on the part of the student, a readiness of wit, a coolness and freedom from embarrassment, if he is to do his best—and these also are qualities which, if well developed in student days, will stand the physician in good stead at the bedside and in the consultation room in later years. In a good practical examination, conducted by a master of the subject examined on, the student has the opportunity of showing what he has learned to do, rather than what he has remembered by cramming, and of illustrating the extent of his assimilative knowledge rather than the dimensions of his portative capacity.

The educational value of an examination will, of course, vary enormously with the character and professional ability of the man who sets it. An examination ought always to be a sanction for the highest kind of teaching in the course or courses preceding it, and ought by its results to set the stamp of approval on the best kind of study and practical work. We shall not have solved the much vexed examination problem until we find that those students stand highest at examinations who, having the best natural capacity, have had the best instruction, and have done their work in the best possible way.

FAITH HEALING AND CRIMINAL NEGLECT IN NEW YORK.

A very important legal decision as regards the practice of faith healing was handed down last week by the Court of Appeals of the State of New York (in that state the court of last resort) in the case of the People vs. Pierson. The defendant, a follower of John Alexander Dowie, was sentenced two years ago to pay a fine of $500, or undergo 500 days' imprisonment for criminal neglect in failing to call a physician to attend an infant adopted daughter in a case of pneumonia, which eventually proved fatal. Under the penal code in New York, a person who omits without lawful excuse to perform a duty by law imposed on him, to furnish food, clothing, shelter or medical attendance to a minor, is guilty of criminal neglect and is liable to fine or imprisonment, or both, according to the will of the judge. Pierson's case was selected by Eddyites and faith healers generally as a test, and was taken to the court of next resort, the appellate division of the Supreme Court, which reversed the decision of the original trial court, holding that medical attendance as referred to in the criminal code does not signify absolutely the attendance of a regular medical practitioner in the ordinary sense of that term. Money was liberally donated from all over the country by those interested in faith healing, and eminent counsel was employed so as to secure, if possible, a favorable decision. The Court of Appeals now

reverses the decision of the appellate division and upholds the original conviction. In the opinion of the court, as written by Justice Haight:

> It would seem that the legislative intent is reasonably clear, although possibly more concise language could have been employed. The section of the code under which the indictment was found contemplates that there are persons on whom the law casts a duty of caring for minors. Sitting as a court of law for the purpose of construing and determining the meaning of statutes we have nothing to do with variances in religious belief and have no power to determine which is correct. We place no limitations on the power of the mind over the body, the power of faith to dispel disease, or the power of the Supreme Being to heal the sick. We merely declare the law as given us by the legislature. We find no error on the part of the trial court which calls for a reversal.

This is the first time, we believe, in this country that a court of last resort has decided this vexed question of the bounden duty of parents and guardians to furnish proper medical attendance to minors. It is all the more fortunate that this decision comes in perhaps the most important state of the Union and from a court whose opinions are held in high estimation all over the civilized world. This declaration of the meaning of a statute is expressed in no doubtful language and formulates with absolute clarity the sentiment that must be supreme in such matters unless confusion is to supervene. It should apparently not be a difficult matter to secure the enaction of corresponding statutes in states where they do not already exist. There is no doubt that this opinion of the Supreme Court of New York will stand as a precedent to be followed in all future decisions in this matter under corresponding circumstances. The decision is all the more welcome and must prove a source of encouragement to those who are striving faithfully for the extension of proper medical regulations since it followed the reversal of the trial court's decision by the appellate division—a reversal which proved a serious setback to those who were honestly laboring to save misguided individuals from the unfortunate results of their own illusions and especially to preserve the minors under the charge of such individuals from suffering at the hands of their legal guardians. There seems every reason to hope that even more good than can be anticipated at the present time will follow from this definition of the phrase, "medical attendance," as indicating the necessity for the presence of a legally qualified practitioner.

There is an added interest in the case in that the reversal by the appellate division was not unanimous, but was made with Justice Goodrich dissenting. It is this dissenting opinion that the Court of Appeals now accepts on the very day that Justice Goodrich read an important paper before the Medical Society of the State of New York on "Medicolegal Aspects of the Roentgen Rays." Justice Goodrich's personal relations to the medical profession are most intimate and it was his close knowledge of medical affairs that evidently guided him to the real solution of a vexed problem in the dissenting opinion which now becomes New York State law. It would seem clear that this more intimate acquaintance is of itself eminently desirable for both professions and that it will surely lead to the happiest results in a mutual understanding and mutual support for measures that manifestly involve the public good, yet are sometimes misunderstood by the public as being the index of narrow professional, or even selfish, purposes.

WORK AT THE SMALLPOX LABORATORY IN CLEVELAND.

A most gratifying tendency of the times is one exhibited by the boards of health in some of our larger cities. We refer to the appropriation of funds for the support of special researches bearing on the causation, nature and treatment of some of the diseases more prevalent in the cities concerned. A notable example in this direction is that set by the board of health of Cleveland. The authorities in that city have voted a liberal fund for the investigation of smallpox. The scourge from which the city has suffered for several years certainly justifies a large expenditure for this purpose. The Smallpox Research Laboratory, which has been established in Cleveland under the directorship of Dr. Wm. T. Howard, Jr., professor of pathology in Western Reserve University, has, during the past year, been the scene of active work carried on by the director and by several assistants under his supervision. The last number of the *Journal of Medical Research* contains several reports from this laboratory, among which are included "A Study of the Agglutinating Hemolytic and Endotheliolytic Action of the Blood Serum in Variola," by Dr. Howard, and "Studies on the Etiology and Pathology of Variola," "Streptococcus Pyogenes in Variola," "Bactericidal Action of the Blood Serum in Variola and in Varioloid," by Drs. Perkins and Pay. The titles of these papers alone indicate the high order and modern character of the work which is going on in the laboratory, and a perusal of their contents reveals an accuracy of observation, a comprehensiveness of grasp of the problems involved, and a thoroughness of research which make one feel that could more laboratories be conducted in this scientific way there would be less dissatisfaction than there is at present at the disposition which is made of public funds in connection with city boards of health.

The Cleveland authorities have done well to direct the researches toward a disease which, at this time, is of such great local importance, aside from the general interest which attaches to it. We have always thought it would be well if the clinicians of various cities would concentrate their attention on the diseases which most largely prevail in their midst, rather than dissipate their interests and energies by dividing their investigative work among the host of rare mala-

dies that they meet. The success of the studies of typhoid fever and malaria in Baltimore by the hospital physicians there illustrates what we mean. Smallpox is being studied in Boston and Cleveland. Let other cities pick out the problems which more particularly belong to them and progress should be rapid.

THE REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION.

The new plan of organization of the British Medical Association, which went into effect about a year ago, according to an editorial in the *British Medical Journal*, October 3, is proving decidedly successful and satisfactory. This is shown by the increased membership and by the greater activity in every part of the complex organization. The branches and divisions are showing an activity markedly in contrast to former conditions. The prospect is that if this is kept up it will in time bring the whole profession within the association. The new constitution of the British Medical Association which was adopted after considerable discussion is in many respects similar to that of the American Medical Association. The British representative body is similar in every respect to the House of Delegates of the American Medical Association; its members are elected by the "branches," which are—organically, not geographically—similar to our state associations. The "branches" are made up of the "divisions" which are their units, as the county society is the unit with us. The arrangement for including the colonial branches—Canada, Australia, etc.—is rather mixed and not easily comprehended by an outsider. The editorial refers to the good work that is being done by certain secretaries of branches and of divisions, and also by the general "organizing secretary," showing that the work of organization is being pushed with as much vigor there as with us. While their annual dues were increased from about $5 to about $6 to meet the increased expense—which action some thought would cause many to drop out—the work seems to be very successful and the membership is increasing rapidly to the point where it will include all who are eligible.

THE SIGNIFICANCE OF THE CENTRAL SULCUS OF THE CEREBRAL CORTEX FOR LOCALIZATION.

Opinion has swung to and fro for a long time as to the relation in which the cerebral sulci, and especially the central sulci of Rolandi of the two sides, stands to the localization of function in the cerebral cortex. The early view that functional areas are sharply marked off from one another by the various sulci gradually gave way before the doctrine that the sulci and gyri are of morphologic interest only and possess no delimiting functional significance whatever. Recent experiments made on motor localization in the cortex indicate, however, that at least for the sulcus centralis in the anthropoid apes, a very sharp localizing significance is maintainable. Sherrington has shown that if the animals be examined under precautions greater than those hitherto taken, no motor response can be elicited by stimulation behind the central sulci, all the cortical motor innervations apparently starting out from the anterior central gyrus situated in front of the sulcus. Sherrington's observations are being confirmed by other workers, and it has now become necessary to revise the well-known and time-honored charts of the motor cortex which clinicians use, and to bring them into accord with this newer knowledge. Even the upper and lower knees of the sulcus have definite localizing significance, one set of motor functions being constantly represented above each knee, another below. In how far time and further investigation will reveal a similar practical physiologic significance for the other sulci of the cerebral hemisphere it is impossible to say. It would certainly be convenient for the surgeon, especially if brain surgery goes on developing at its present rate, to have such clean-cut landmarks as the larger cerebral sulci to serve him as a reliable guide to functional areas when he has to apply his knife. It seems to us improper, however, that the exploration of other regions of the brain will ever yield us such definite and satisfying information concerning functions as the study of the motor areas has afforded us. Still, it is rash to make prophecy; new men may arise and new methods may be devised which will some time chart out for us even those great silent territories which Flechsig calls "association centers."

THE CORDITE EATERS.

It is a well-known fact that all confirmed users of stimulants and narcotics are not very particular as to the source of the agent they use. We have heard of sailors drinking off the liquor from a preserved admiral. One of the most peculiar methods of inducing intoxication, however, of which we have heard lately is the nitroglycerin habit in the British army. The material used in this instance is cordite. This is employed for the cartridges of small arms of that service, and consists of 58 parts of nitroglycerin, 37 of gun cotton and 5 parts of mineral jelly. It would seem that this combination would be rather awkward to masticate; nevertheless the British soldiers do not seem to find it so. In the *Journal of the Royal Army Medical Corps*, October, Maj. J. W. Jennings of the British service reports his observations in South Africa. It appears that the drug produces in the novice a racking splitting headache which may last for 24 hours or more, but the experienced user manages to obtain some satisfaction from its employment. When taken with beer or tea it seems to produce a heavy sleep, followed by stupor lasting approximately from 5 to 12 hours. It is difficult to awaken the subject, and when apparently awakened the cordite user does not seem to recognize his surroundings. There is a dull boring headache, slight facial twitching, protrusion of the eyes, a slowness of comprehension, and a disinclination to food, accompanied with a tendency to vomit. Taken in solution, as with tea, it appears to produce an exhilarating effect. If many take the beverage all begin talking at once, seeming anxious to inform each other of everything that has happened since their birth. This lasts for two or three hours, after which the effects seem to die away.

and sleep follows. If beer is taken during the excitement it brings on a combative and destructive tendency; the worst qualities of the individual are exhibited. Dr. Jennings gives a number of interesting personal histories and thinks it may be a new and rather peculiar form of vice. He does not see how the effects are likely to help a man to escape service unless it be by imprisonment as a hopeless lunatic or as a suicide. It was this claim that it was used to enable men to obtain their discharge that first called his attention to its use, but instead of being particularly for that purpose it seems to be a characteristic drug habit and a method of intoxication which has originated under special conditions. The subject is worthy of the investigation of military surgeons and officers generally. There must be many drug habitués who drift into the army, and if they can not get their ordinary intoxicant they take some other, as in this case, and add another to the already too extensive catalogue of "drugs that enslave."

CENSORSHIP OF NEWSPAPER ADVERTISEMENTS.

Justice Mayer of New York City, in a paper read at the 175th meeting of the Society of Medical Jurisprudence, October 13, on the subject of "Criminal Procedure Against the Unlawful Practice of Medicine," said some things that are not only of great interest to the medical profession, but that are worthy of arresting the attention of all serious-minded journalists of this country. He declared that the worst agency in New York to-day —as, of course, it is also in every large city throughout the country—in helping the person who sells either real or pretended abortion remedies, is the newspapers, for they make it possible to ensnare the unwary, the superstitious and the fearful. He adds: "I suggest that in the new school of journalism about to be established in connection with Columbia University there be a chair of advertising, and let it be taught to the young men of the newspaper profession that the first duty of a great newspaper is to censor its medical advertising." All those who are interested in the improvement of public morality will at once agree with this declaration of a distinguished member of the New York judiciary, who, with his opportunities as a justice of the Court of Special Sessions before which cases involving infractions of law in this matter are being constantly presented, is in a position to know by practical experience better than almost any one else the real causes that underlie the evils of which he complains. If it is possible it would be much better that this censorship he demands should be created by the voluntary good sense and the good will of the managers of newspapers than that it should be imposed on them by legal regulations; but those in control of some papers appear to consult only their commercial interests. The evils involved in this question have, however, of late years grown to such an extent as absolutely to require some regulation if public morality is not to suffer. As pointed out by Justice Mayer, the full extent of the criminality encouraged can not be estimated from the comparatively overt advertisements between the lines of which can rather easily be seen the criminal intent of the advertisers. Many apparently less reprehensible advertisements are only a cloak for criminal measures. "Many persons who advertise as palmists and clairvoyants," to quote Justice Mayer's words, "advertise simply to cover the giving out of medicines of the kind I have mentioned." Here is something for the responsible directors of newspaper policy to consider seriously. If their pretentions to help the cause of public morality mean anything, there is a clear method open to them by which to accomplish a great and lasting good.

Medical News.

DISTRICT OF COLUMBIA.

New Superintendent on Duty.—Dr. William A. White, Binghamton, N. Y., has assumed the duties of his position as superintendent of the U. S. Hospital for the Insane (St. Elizabeth's).

Medical School Opens.—The session of 1903-04 of Georgetown Medical School opened October 3 with addresses by Father Daugherty, director of Georgetown University, Drs. Joseph Tabor Johnson and George M. Kober.

American Public Health Association.—The thirty-first annual convention of the American Public Health Association of the United States, the Dominion of Canada, Mexico, and Cuba, will be held in Washington, October 26 to 30.

Woman's Clinic in New Home.—This institution, non-sectarian in character and a part of whose work is charitable, which was established thirteen years ago, has moved into its new hospital building at Thirteenth and T Streets, N. W. It is gathering a fund and is paying for its new home by degrees.

Society Elects Officers.—The Washington Obstetrical and Gynecological Society, at its meeting, October 16, elected the following officers: President, Dr. J. Wesley Bovée; vice-presidents, Drs. John F. Moran and Elmer H. Southron; recording secretary, Dr. J. Thomas Kelley; corresponding secretary, Dr. Edward E. Morse, and treasurer, Dr. John Van Rensselaer. The annual banquet followed.

Health Report.—The report of the health officer for the past week shows the total number of deaths to have been 92. There were 102 births and 13 stillbirths. There were 191 cases of typhoid fever, 18 cases of diphtheria, 18 cases of scarlet fever and one case of smallpox under treatment. The medical inspection of schools provided for at the last session of congress has begun. Printed regulations governing the medical inspection are being distributed to the teachers of the schools and the inspectors.

ILLINOIS.

Chicago.

Bequests.—The will of the late Henry J. Willing gives $5,000 each to the Chicago Home for Incurables and the Presbyterian Hospital, in the latter case to be used for the endowment of a bed in memory of his mother, Mary Jane Willing.

The Week's Deaths.—For the week ended October 17, the deaths numbered 459, 32 more than for the previous week and 14 more than for the corresponding week of 1902. The annual death-rate per 1,000 was 12.68. Acute intestinal diseases head the list with 51 deaths; other chief causes were: consumption, 45; pneumonia, 38; violence, 36, and heart diseases, 35.

Advisory Board Organizes.—The advisory board on management of county institutions has elected Dr. John B. Murphy president. The medical members of committees are as follows: Medical administration—Dr. Frank Billings, chairman, and Dr. Hugh T. Patrick; care of insane patients—Dr. Sidney Kuh, chairman, and Drs. Isaac A. Abt and Hugh T. Patrick; hospital for consumptives—Dr. Frank Billings, chairman, and Dr. W. A. Evans, and infirmary—E. R. LeCount.

Founded a Quarter of a Century.—The Chicago Gynecological Society held a banquet, October 16, in commemoration of the twenty-fifth anniversary of its foundation. In addition to an address by Dr. J. Henry Carstens, Detroit, reminiscent remarks were made by several members. The following officers were elected: Dr. Emil Ries, president; Drs. Joseph B. De Lee and Frank T. Andrews, vice-presidents; Dr. Palmer Findlay, secre-

tary, and Dr. Charles B. Reed, treasurer; Dr. Gustav Kolischer, pathologist, and Dr. Rudolph W. Holmes, editor.

Dr. Frank Billings Submits to an Operation.—Dr. Frank Billings, who has been ill for some time, but who has remained at work in spite of his condition, submitted to an operation, October 15. The procedure was in the nature of an exploration, the gall bladder being suspected as the cause of the trouble. Dr. L. L. McArthur, assisted by Dr. A. D. Bevan, performed the operation. A congestion of the liver was found with cholecystitis, and gall-bladder drainage was established. Dr. Billings is doing well, and it is hoped he will entirely recover.

Decrease in Infant Mortality.—A well-nigh incredible decrease in the deaths and the death rates of the two most dreaded diseases of childhood was demonstrated during the week, says the department of health.

Briefly stated, the records for sixteen years show that there were 2,152 deaths reported from scarlet fever during the eight years, 1887 to 1894 inclusive, while there were but 1,648 such deaths reported during the last eight years, 1895-1902 inclusive. In the first period there were 11,251 deaths from diphtheria and croup; in the second period only 7,093. The average yearly population of the first period was 1,050,000; of the second period it was 1,610,000—or 53.3 per cent. greater. In proportion to the increased population, the scarlet fever deaths decreased exactly 50 per cent. and the diphtheria and croup deaths decreased 59 per cent.

Reforms at Dunning.—The citizens' advisory board appointed several months ago to assist in the management of the county insane asylum, consumptive hospital and the infirmary, accompanied the County Board to Dunning October 14, and considered matters of scientific administration reform, and the new buildings and improvements needed. The plans as outlined by President Foreman, are as follows:

Erection of three new cottages for insane patients at an expense of $60,000.

Erection of five cottages for consumptive patients, with a central administration building, all structures to be connected by enclosed corridors, at an expense of $125,000.

Erection of a modern morgue and pathologic laboratory, with an amphitheater for lectures.

Erection of a training school for nurses and attendants.

The present consumption hospital to be converted into a hospital for the sick insane.

Erection in Chicago of a branch hospital for consumptives, where incurable cases may be treated.

Erection of a central power house, surrounded by shops, where the patients may be provided with light employment, such as making clothing, brushes and brooms for the use of the institution.

Installation of a vacuum system of steam heating in all institutions.

Light manual labor provided for all patients in good physical condition.

Books and games provided patients in the wards.

Baseball games, band concerts and other amusements to be provided for the patients in an enclosed space on the lawn in seasonable weather.

Clubrooms to be opened for the use of the nurses and attendants of the institutions.

Better protection against fire to be supplied.

The adoption of the latest scientific methods of treatment for insane patients.

A complete reclassification of insane patients by grouping along scientific lines.

Internes to be employed to assist the physicians in keeping a complete record of the history of cases.

MARYLAND.

Baltimore.

Deaths of the Week.—The deaths for the week ended October 17 were 168, an annual death rate per 1,000 of 15.61. Those from pneumonia rose to 18.

Bequests.—Mrs. Elizabeth A. Innes' will makes the following bequests: $4,000 to Church Home and Infirmary for the establishment of two beds; $500 to the Nursery and Child's Hospital.

Death in Narcosis.—A death occurred at the University Hospital, October 14, during the administration of ether for anesthesia. The patient, aged 22, had a severe cut in the palm of his hand. Shortly after administration was begun he began to vomit, the windpipe became clogged with food and he choked to death, notwithstanding an immediate tracheotomy.

Hospital Building Secured.—The faculty of Baltimore University School of Medicine has rented a building for hospital purposes. Drs. I. B. Kellar and E. C. Moriarty are resident physicians. Heretofore the school and hospital have been in the same building, the laboratory and dissecting room being elsewhere, but in the new arrangement everything will be concentrated in the college building except the hospital.

Personal.—On October 16 Dr. John D. Blake was elected chairman, and Dr. W. Edward Magruder secretary, of the Section on Clinical Medicine and Surgery of the Medical and Chirurgical Faculty of Maryland.——Drs. Hugh H. Young and Thomas Shearer have returned from Europe.——Dr. William Hewson, Baltzell, has returned from summering in Canada and Pennsylvania.——The friends of Dr. J. C. Hummer entertained him, October 11, on the occasion of his seventieth anniversary.

The Hebrew Hospital.—At the thirty-sixth annual Succoth festival banquet, October 11, $2,200 was raised for the Hebrew Hospital; $1,500 in legacies was reported during the year, and $1,735 in memorial gifts. The expenses for the year were $18,720, and the receipts $14,301. There were 296 inmates during the year, of whom 168 were discharged cured, 58 improved, 12 died; 127 operations were performed; 7,795 persons were treated in the dispensary; 8,692 prescriptions were compounded for the dispensary and 9,125 for the hospital.

MICHIGAN.

Personal.—Dr. James H. Reed, Battle Creek, has been reappointed lecturer of the third district of the state by the president of the state medical society.——Dr. N. Dudley Kean, Ishpeming, moved to Michigamme, succeeding Dr. Horace H. Loveland, who has gone East.

Lapeer County Society Election.—At the annual meeting of Lapeer County Medical Society the following officers were elected: Dr. Hugh D. McColl, Lapeer, president; Dr. Sparrow A. Snow, North Branch, vice-president; Dr. Peter Stewart, Hadley, treasurer, and Dr. Herbert E. Randall Lapeer, secretary.

Health of Michigan.—Reports to the State Board of Health for September concerning the most prevalent diseases in the state show that in 57 per cent. of the reports rheumatism and diarrhea were mentioned; in 44, neuralgia; in 42, bronchitis; in 39, tonsillitis; in 24, typhoid fever; in 23, cholera morbus and consumption, and in 22 dysentery.

Comparative Morbidity.—For September, compared with the average for September in the last 10 years, pleuritis, scarlet fever and smallpox were more than usually prevalent; and cholera morbus, dysentery, cholera infantum, influenza, intermittent fever, remittent fever, erysipelas, inflammation of brain, meningitis and measles less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during September at 8 places, measles at 24 places, whooping cough at 32 places, smallpox at 57 places, diphtheria at 73 places, scarlet fever at 103 places, typhoid fever at 182 places, and consumption at 233 places. Reports from all sources show meningitis reported present at 5 places more, measles at 22 places less, whooping cough at 4 places less, smallpox at 4 places less, diphtheria at 24 places more, scarlet fever at 11 places more, typhoid fever at 55 places more, and consumption at 7 places more, in September than in the preceding month.

September Mortality.—The total number of deaths reported for September was 2,722, or 78 less than the number for the preceding month. The death rate was 13.4 per 1,000 population. There were 682 deaths of infants under 1 year of age, 233 deaths of children aged 1 to 4 years, and 730 deaths of persons 65 years and over. Important causes of death were as follows: tuberculosis, 184; typhoid fever, 74; diphtheria, 42; scarlet fever, 6; measles, 2; whooping cough, 22; pneumonia, 38; diarrhea and enteritis, under 2 years, 408; cancer, 154, and violence, 163. There was 1 death from smallpox. Typhoid fever increased somewhat in mortality, as is usual at this time of the year. The number of deaths for the month was less than the number reported for the corresponding month last year.

MINNESOTA.

Lauds St. Paul's Health.—St. Paul's death rate is reported to be 9.2 per 1,000, and the health commissioner boasts that it is the most healthful city in the United States.

Presentation.—In honor of the thirty-second anniversary of the arrival of Dr. Charles Simpson in Minneapolis, a number of his professional friends met at his house and presented him with a gold-headed cane.

Would Bar Out Trachoma.—Ramsey County Medical Society has passed a resolution urging the St. Paul School Board to prohibit pupils suffering from trachoma or any other infectious diseases of the eyes from attending the public schools.

Academy of Medicine Election.—At the annual meeting of the Minnesota Academy of Medicine, held October 7, the following officers were elected: President, Dr. William Davis, St. Paul; vice-president, Dr. James H. Dunn, Minneapolis, and secretary and treasurer, Dr. Arthur W. Dunning, St. Paul.

The New College Year.—The medical department of the University of Minnesota opened September 8, with an address

by Dr. Alexander J. Stone, St. Paul.——The College of Physicians and Surgeons, Hamline University, opened for its twenty-first school term, September 27, with a lecture by Dr. Charles W. Malchow, Minneapolis.

NEW YORK.

Pavilions for Insane Consumptives.—Governor Odell has approved the plans and specifications for the new tuberculosis pavilions to be erected at the Utica, Binghamton and Middletown state hospitals.

Against Tetanus.—Dr. Louis C. Ager, chairman of the Committee on Public Health and Medical Charities of the Kings County Medical Association, has sent to the various chairmen of the county associations a request to influence the members of the legislature and the local newspapers for the passage of an antitetanus bill at an early session of the legislature. The Buffalo Academy has, as previously reported, already taken action on this subject.

Alumni Dine and Hold Election.—The Central New York Alumni Association of Albany Medical College held its third annual meeting and banquet in Utica, September 30. The following officers were elected: Dr. Merritt B. Fairchild, Syracuse, president; Drs. Arthur C. Hagedon, Gloversville, Otis H. Deck, Herkimer, Leroy F. Hollis, Lacona, Ward E. Hunt, Little Falls, Israel M. Slingerland, Fayetteville, and William T. Hudson, Auburn, vice-presidents; Dr. Frederick H. Brewer, Utica, secretary, and Dr. A. Wieting Hedding, Syracuse, treasurer.

New York City.

Personal.—Dr. Joseph B. Bryant, who visited Chicago with ex-President Cleveland, held two clinics while there at Mercy Hospital, October 16.

Norwegian Hospital Staff Changes.—Dr. R. G. Moore has resigned and will take a service in the Orthopedic Hospital, Manhattan.——Dr. W. R. Hersman succeeds him, and the place of the latter as assistant has been filled by the appointment of Dr. L. W. Stork.

Day Treatment for Tuberculosis.—At the Metropolitan Hospital, Blackwell's Island a day-treatment system has been instituted in the tuberculosis department, whereby the female patients remain at the island during the day and are given the open-air treatment, together with medicine and good food.

Hospital for Consumptive Children.—Mr. John Seeley Ward, Jr., of the Association for Improving the Condition of the Poor, has returned from a trip abroad full of the determination to see what can be done toward establishing a seaside hospital large enough to care for at least 100 tuberculous children. He states that at the hospitals visited by him in the vicinity of Paris 29 per cent. were cured.

Asks for More Inspectors.—President Lederle of the board of health has asked the board of estimate for an appropriation for 1904 of $1,631,500, an increase of $597,108 over the appropriation for 1903. Of this $190,612 is needed for an enlargement of his staff, and part will be expended in providing for a summer corps of physicians for house-to-house inspection in tenement districts. He wishes also to appoint more inspectors for the prevention of contagious diseases; to look after the food and milk supplies, and to visit the factories and other places where children are employed and for the suppression of glanders.

Alleged Conspiracy to Evade Medical Examination of Immigrants.—Mr. Broughton Brandenberg, who has just returned from Italy as a steerage passenger in order that he might study the conditions of Italian emigrants coming to this country, has just unearthed what he believes to be a conspiracy, which directly affects the public health. He had with him a party of emigrants, and while they were waiting on the wharf at Naples to have their baggage examined and fumigated, they were approached by a man who offered for $5 to put through all their baggage without medical examination. After some parleying his services were accepted, and he proceeded at once, with the aid of assistants, to place counterfeit pasters on the baggage. A lead tag indicates that the baggage has been fumigated, a red label that the emigrants have passed the Italian government officials, and the red label that the representative of the United States consul has seen the other labels affixed. Our own officials accept this evidence of medical inspection of emigrants except as regards the head and eyes. After the party and baggage had been passed on board the steamer, Mr. Brandenberg informed the consul, and as a result three of the men were arrested. On them were found a large number of the counterfeit seals and pasters, and on searching the baggage on the vessel it was discovered that 68 out of 140 pieces were provided with these counterfeits.

Buffalo.

Personal.—Dr. Montgomery A. Crockett has returned from Europe.——Dr. Allen A. Jones has returned from Big Moose Lake in the Adirondacks.

Hospital Moves.—The Riverside Accident Hospital has removed into its newly-renovated home on Swan Street, where all emergency cases can be attended to.

Club Election.—The Roswell Park Medical Club elected as president Dr. Frederick C. Busch; vice-president, Dr. James A. Gibson, and secretary-treasurer, Dr. George F. Cott.

OREGON.

Personal.—Dr. DeWitt A. Paine, Eugene, has retired from practice and will move to Portland.——Drs. David H. Rand and George Ainslie and wife of Portland have returned from Europe.

State Needs Institute for Feeble-Minded.—The Oregon State Medical Society, at its recent meeting, favored the maintenance at state expense of a feeble-minded institute separate from the present State Insane Asylum at Salem.

State Society Elects Officers.—At the thirteenth annual meeting of the Oregon State Medical Society, held in Portland, September 29 and 30, the following officers were elected: President, Dr. Walter T. Williamson, Salem; vice-presidents, Drs. George W. Tape, Hot Lake, Elmer E. Ferguson, The Dalles, and Mae H. Cardwell, Portland; treasurer, Dr. Jessie W. McGavin, Portland; secretary, Dr. Luther H. Hamilton, Portland; councilors, Drs. Simeon E. Josephi, R. C. Coffey and George F. Wilson, Portland, and Calvin S. White, Gervais, for one year; Drs. William J. May, Baker City, and Jacob A. Fulton, Astoria, for 2 years; Drs. William F. Amos, Portland, and William House, Pendleton, for three years, and Drs. Walter T. Williamson, Salem, and Samuel T. Linklater, Hillsboro, for 4 years; delegate to the American Medical Association, Dr. Charles J. Smith, Pendleton, and alternate, Dr. Kenneth A. J. Mackenzie, Portland.

PENNSYLVANIA.

Personal.—Orders have been issued appointing Dr. Henry Norris, Philadelphia, assistant surgeon of the Third Regiment Pennsylvania National Guards, with the rank of first lieutenant.

Hospital Day at St. Luke's.—St. Luke's Hospital, South Bethlehem, Pa., celebrated "Hospital Day" October 17. An address was delivered by Dr. Edward Wallace Lee of New York, and a class of nurses was graduated.

Insane Hospital Crowded.—Superintendent Orth of the Harrisburg Insane Hospital says that the attention of the courts and the legislature has been repeatedly called to the pitiable crowded condition of the hospital. There are now 213 patients in the hospital beyond its capacity. The overcrowded condition has existed for ten years.

Philadelphia.

Girard Memorial Tablet.—A tablet to the memory of Stephen and Mrs. Girard will be unveiled in November in the Assembly Hall of the Pennsylvania Hospital.

Lectures on Tropical Medicine.—A course of lectures on tropical medicine will be given at the Jefferson Medical College by Capt. Charles F. Kieffer, assistant surgeon U. S. Army. The lectures will be given at 4 p. m. each Monday in the amphitheater of the hospital.

An Unwilling Bather.—John F. Rapp and his wife, Maggie K. Rapp, charge abuse and cruelty against the board of health and bring suit against the city for $25,000 for the alleged forcible removal of the latter from her home, while sick, and compelling her to take a cold disinfectant bath at the Philadelphia Hospital.

Smallpox Continues.—For the week ended October 17, 54 new cases of smallpox were reported to the bureau of health. Within two days, 30 cases were reported. This is the greatest number for one week in the past two years. Eleven new cases were reported for the previous week. The authorities state that the disease will continue so long as people refuse to be vaccinated and there is no compulsory vaccination law.

Faculty Changes.—Dr. George W. Pfromm has been elected clinical professor of applied therapeutics in the Medico-Chirurgical College, and Dr. Hilary N. Christian clinical professor of genito-urinary diseases. Dr. Judson Daland has been nom-

inated by the faculty for election by the board of trustees as professor of clinical medicine. Dr. Mitchell P. Warmuth has been elected demonstrator of operative surgery, and Dr. S. Leon Gans demonstrator and chief of clinic of genito-urinary diseases.

Voluntary Advisory Board.—Drs. William D. Robinson and Charles D. Hart, inspectors of the Eastern State Penitentiary of Pennsylvania, who were appointed as a special committee to obtain the voluntary services of an advisory board of physicians and surgeons, announce the following members of such a board: Surgeon, Dr. Robert G. LeConte; physician, Dr. Judson Daland; ophthalmologist, Dr. George E. de Schweinitz; otologist and laryngologist, Dr. Francis R. Packard; alienist, Dr. Horace Phillips. These will act as consultants with the prison physician.

Wants Medical Inspection in Schools.—Dr. Edward Martin, director of the Department of Public Health and Charities, has asked the board of education to allow a system of medical inspection in all the public schools. It is the plan to have one of the regular city medical inspectors call at each school once a week, and with the coöperation of the principal, to inspect all the children of the school, prescribe treatment when needed, send home those requiring quarantine, receive reports of sickness in the homes of children, and when parents are believed to be ignorant to send a visiting nurse to instruct the mother in the care of the sick child.

Sand May Cause Typhoid.—Regarding the large number of typhoid fever cases occurring in sections of the city supplied with filtered water, Dr. A. Frank Ziegenfus, in an open letter, advances the theory that the infection is from sand dredged or pumped from the Delaware river bed, which the contractors are using in construction of the filter beds. The use of such sand to "purify" Philadelphia's water supply is severely condemned, especially when there are extensive banks of the best surface sand near at hand. From another source attention is called to what are considered grave defects in the new filtration system being constructed, namely, absence of provision for sunlight and aëration.

X-Ray and Light Research.—At the last session of the legislature $25,000 was appropriated to the University of Pennsylvania for a laboratory for *x*-ray research and for Finsen light apparatus. The department will be connected with the University Hospital. It is planned to build a laboratory in connection with the Agnew pavilion. Dr. Henry K. Pancoast, assistant instructor in clinical surgery, and assistant demonstrator of surgery, will have charge of the department. It is the purpose to establish a very complete Finsen light plant, with the prospect of undertaking the first extensive experiments conducted in this country by this method in the treatment of diseases of the skin.

The Moseley Education Commission.—Dr. J. Rose Bradford, professor of medicine, University College, London, and Prof. W. H. Gaskell, fellow of Trinity Hall, Cambridge University, and university lecturer in physiology, were the first members of the Moseley Education Commission to visit Philadelphia. This commission, composed of some of the most distinguished British educators, are visiting this country as the guests of Alfred Moseley, M.P. Their work will include the study of our educational system from the elementary schools to the technical and professional schools and universities. The commission will be tendered a reception by the American Academy of Political and Social Science on the evening of October 24, at which distinguished educators will be present. Dr. Bradford and Professor Gaskell were the guests of Dr. Hobart A. Hare at dinner on October 16. Dr. Bradford purposes visiting New York, Baltimore, Washington, Chicago, Ann Arbor, and Harvard and Yale universities. Dean Charles H. Frazier of the Medical School of the University of Pennsylvania, on October 16, entertained Dr. Bradford and Professor Gaskell at luncheon, at which a number of the faculty were present. The visitors were afterward shown through the various departments of the university.

TEXAS.

Examiners Meet.—The regular State Board of Medical Examiners met at Fort Worth, October 13, and examined 34 candidates for license to practice medicine, and one midwife.

Sanitarium Cornerstone Laid.—On October 11 the cornerstone of Providence Sanitarium, Waco, was laid by the bishop of Galveston with appropriate ceremonies. The institution will cost, with equipment, over $100,000.

Yellow Fever at Laredo.—On October 19, the new yellow fever cases numbered one more than on any day since the outbreak. The official bulletin is as follows: New cases, 36; deaths, 5; total cases to date, 436; total deaths to date, 32.

GENERAL.

Honolulu Hospital Receives Gift.—A former resident of Honolulu, Charles R. Bishop, San Francisco, has given $50,000 to Queen's Hospital, Honolulu. Most of this will be spent in erecting a wing, which is much needed.

FOREIGN.

An outbreak of cholera is reported in Bethlehem, Palestine.

Dowieite in Prison for Cruelty.—On a charge of cruelty to his child, a Dowieite in London was sentenced to a month's imprisonment at hard labor. The little girl broke her collar bone and was compelled to suffer with the break untreated.

Hygienists at Home.—The French Académie de Médecine has always taken the lead in matters of hygiene and its resolutions have commanded the attention of the world. All Paris is smiling now at the discovery that in the hall occupied until recently by the académie each new carpet needed in the century of its existence has been laid on top of its worn and dusty predecessors—ten layers in all.

Antistreptococcus Serum in the Moscow Hospitals.—The Institute of Bacteriology at Moscow has petitioned the municipal authorities for means to defray the expenses so that antistreptococcus serum can be supplied to the hospitals free of charge. The authorities have empowered the physicians in the hospitals to test and report on the serum, and if their report is favorable funds will be appropriated for the desired purpose.

"Archives Latines de Medecine et de Biologie."—This is the title of a new medical monthly recently started by prominent physicians in France, Spain and Italy, to contain articles in the Latin tongues. Each communication will be published in the writer's own language, and be followed by a summary in the two other languages, French, Spanish or Italian as may be. Drs. A. Robin and R. Blanchard of Paris, Cortezo and Ramon y Cajal of Madrid, Maragliano of Genoa and Grassi of Rome are the founders of the new periodical.

LONDON LETTER.

Death of Alexander Bain.

Alexander Bain, the celebrated philosopher, has died at his residence in Aberdeen. Though not a medical man, or even a biologist, his work in the realm of psychology can not be regarded as without importance from the merely professional standpoint. The evolutionary school has largely thrown much of his psychologic work in the shade, but some of it will remain an important and permanent contribution to science. His treatises may be described as "the last word" of the earlier stage of psychology, which proceeded in the main by introspective analysis of the individual mind. The principle of association so fruitfully applied by English philosophers from Hartley to John Stuart Mill received from Bain its fullest development and illustration in every region of mental experience. In insisting on the study of mental facts in connection with their physiologic conditions he was one of the pioneers of newer methods and he laid down the principle of psychophysical parallelism, which most psychologists now employ, at least as a working hypothesis. The stress which he laid on our active experiences of movement and effort was entirely original; and though his theory of a central innervation sense is no longer tenable in the form in which he stated it the investigations to which it gave rise have been an important factor in advancing our knowledge of the subject.

The Drinking of Methylated Spirit in Aberdeen.

In his annual report for 1902 Dr. Matthew Hay draws attention to the growing use in Aberdeen of methylated spirit as a beverage. The government has recently authorized the addition to methylated spirit of a small proportion of petroleum oil (3 to 800). It was thought that such a mixture would be too nauseous to drink. But this modification has failed to effect its purpose. The poorer and more degraded drinkers of Aberdeen take this altered spirit in an increasing degree. It is so cheap that for 2 cents the equivalent of 4 ounces of whisky can be obtained. The extent to which the trade is carried on is shown by the fact that as many as 70 men have been seen to enter a grocer's shop and purchase it for drinking in 2 hours. This spirit produces a state of stupor similar to that of opium poisoning.

Correspondence.

Dead Yet Speaketh.

St. Johnsbury, Vt., Oct. 12, 1903.

To the Editor:—I read my obituary notice, published in your last week's issue, with interest. As Mark Twain said of a similar occurrence: "The report was greatly exaggerated." I was injured in an automobile accident, and received fractures of each femur, dislocation of the left elbow and right shoulder and fractures of the nasal and superior maxillary bones. Aside from these I am all right and am getting on well with them.

John M. Allen.

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL BIOGRAPHY.

New York, Oct. 15, 1903.

To the Editor:—After carefully reading your grand editorial in the issue of August 15, on "The Value of Medical Biography to the Medical Student," I ask where I can secure (in English) Sir Michael Foster's Lane Lectures, "Masters of Medicine," and Rene Vallery-Radot's "Life of Pasteur"? S. H. Cassidy.

Ans.—Foster's book on the "History of Physiology," being the Lane Lecture of 1901, is published by the Macmillan Company, New York, price $2.25; "Masters of Medicine," by Sir B. W. Richardson, is published by Longmans, Green & Co., London and New York, price $1.25 per volume; "The Life of Pasteur," in two volumes, is published by McClure, Phillips & Co., New York, price $7.50. Any book house will order them if they are not in stock.

Marriages.

George H. Miller, M.D., to Miss Alice Lawler, both of Chicago, October 7.

Samuel J. McNeill, M.D., to Miss Amy E. Jackson, both of Chicago, September 9.

Clara Meltzer, M.D., to John Auer, M.D., both of New York City, October 1.

William J. Hammond, M.D., Boston, to Miss Edith Lewis, at Baltimore, October 7.

E. Norman Foster, M.D., to Miss Pearl Thomas, both of Pittsburg, Pa., August 20.

Charles W. Pfeiffer, M.D., to Miss Theresa Golm, both of Quincy, Ill., September 30.

W. M. French, M.D., Chicago, to Miss Mabel Shelton of Macon, Mo., September 24.

J. Wesley Graham, M.D., Jackson, Tenn., to Miss Crigler of Saybrook, Ill., October 7.

Van H. Wilcox, M.D., to Miss Margaret Caton, both of Minneapolis, Minn., October 6.

Alvah Childs Remington, M.D., to Anna S. Wilson, both Rochester, N. Y., September 30.

Seeber King, M.D., Lake Butler, Fla., to Miss Agnes V. O. Wilson, at Laurel, Md., October 7.

Philip E. Stockhardt, M.D., Elwood, Ind., to Miss Mabel G. Stout of Louisville, Ky., October 14.

Frederic H. Slayton, M.D., Clifton, Ariz., to Miss Louise Downing of Macomb, Ill., October 6.

A. Aronheim, M.D. Ghent, Norfolk County, Va., to Miss Hilda B. Kline, at Baltimore, October 8.

Roy S. Donaldson, M.D., Maywood, Ill., to Miss Elizabeth Wolfe Giles of Oak Park, Ill., October 12.

William Major, M.D., Aguas Calientes, Mexico, to Miss Maude Meacham of Eureka, Ill., October 7.

Chester A. Miller, M.D., Sharpsburg, Iowa, to Miss Louie Dewees of Fontanelle, Iowa, September 16.

Harlan Page Mills, M.D., Sheridan, Mo., to Miss Maude Edith Benton, at St. Joseph, Mo., October 14.

Albert E. Brennen, M.D., Niagara Falls, N. Y., to Miss Mary McInnes Read, Niagara, September 29.

Henry Krone, Jr., M.D., Hamilton, Ohio, to Miss Grace Janet Seesloth of Richmond, Ind., October 21.

Andrew F. McBride, M.D., Paterson, N. J., to Miss Kathleen Galvin, in New York City, September 29.

Henry E. Haskins, M.D., Kingman, Kan., to Miss Bertha Knappenber of Penaloosa, Kan., September 18.

John W. Osborne, M.D., Rantoul, Ill., to Miss Gertrude Pitsenbarger of Champaign, Ill., September 23.

Robert Bland Grubbs, M.D., U. S. A., San Francisco, to Miss Alice Maude Eagan, at Washington, D.C., September 17.

Albert F. Caldwell, M.D., Shenandoah, Iowa, to Miss Emma Pierce of Boston, Mass., at Clarinda, Iowa, September 26.

Archibald Cameron Nash, M.D., Cleveland, Ohio, to Miss Clara Margaret Huddleston of Hartwell, Ohio, September 30.

Deaths.

JOHN BATES JOHNSON, M.D.

On October 6, Dr. John Bates Johnson, who was the first to receive the honor of being elected vice-president of the American Medical Association, died at his home in St. Louis, aged 86.

He was born at Fairhaven, Mass., April 26, 1817, and was graduated from Harvard University. He then went to Pittsfield, Mass., where he attended Berkshire Medical College and received his medical degree from that institution in 1840. He settled in St. Louis in 1841 and soon attained prominence. Two years after his arrival there he established the first public dispensary west of the Mississippi river and in 1840 he commenced his career as a medical teacher in the Kemper Medical College, which afterward became the Missouri Medical College. In 1850, when the American Medical Association was founded, he was one of its organizers and was made vice-president. He was also one of the founders of the Medical Association of the State of Missouri and served one term as president. In 1854 he was elected to the chair of principles and practice of medicine in the Washington University and con-

JOHN BATES JOHNSON, M.D.

tinued in this position for nearly half a century. At the time of his death he was professor emeritus of this branch.

During the Civil War he was prominent as a member of the United States Sanitary Commission and rendered signal service in raising funds and caring for the sick and wounded soldiers.

Dr. Johnson was one of the most honored and esteemed physicians of St. Louis and was one of the four veterans who, only a few months ago, were tendered a banquet by the medical profession of the city and state. He continued in practice and was in good health until a short time before his death, when acute kidney disease developed, for which an operation was unavailingly performed. He failed rapidly after this and died from uremia.

The St. Louis Medical Society held a special meeting, October 7, at which Dr. Johnson's personality and excellent qualities as a physician and man were eulogized. A committee was appointed to draw up resolutions expressive of his worth and of the society's loss in his death. The society voted to attend the funeral in a body.

David Franklin, M.D. University of New York, 1878, died at his home in New York City, October 6, from septic peritonitis after an operation for appendicitis, aged 48. He was a member of the American Medical, New York State Medical, New York County Medical and Harlem Medical associations and of the Bellevue Hospital Alumni Association. For twenty years he was house physician to the Hebrew Orphan Asylum. At a special meeting of the Harlem Medical Association, October 7, resolutions were unanimously adopted extolling the many noble traits of character of Dr. Franklin, who was once president of the association, and regretting his untimely death.

John W. Hulick, M.D. Medical College of Ohio, Cincinnati, 1882, member of the American Medical Association, American Association of Life Examining Surgeons, Ohio State Medical Society, Clermont and Clark County Medical societies, died at his home in Springfield, Ohio, October 4, from typhoid fever, after an illness of two weeks, aged 45. The Clark County Medical Society at a special meeting, October 5, listened to a brief sketch of Dr. Hulick's life, prepared by Dr. John P. Dugan, and adopted resolutions of regret and regard.

William C. Denman, M.D. Medical College of Ohio, Cincinnati, 1878, a member of the American Medical Association and of the Marion County Medical Society, died at his home in Marion, Ohio, October 1, from Bright's disease, after an illness of a few months, aged 52. The county medical society, at a special meeting called on the day of Dr. Denman's death, decided to attend the funeral in a body, and also adopted suitable resolutions of regret.

James Gamble, M.D. Medical Department of the University of Missouri, St. Louis, 1847, treasurer of the Iowa State Medical Society in 1857 and president in 1870, one of the oldest members of the Scott County Medical Society, assistant surgeon of the Third Iowa Volunteer Infantry in the Civil War, died at his home in Le Claire, Iowa, October 6, after an illness of only twelve hours, aged 82.

Virgil McDavitt, M.D. University of Louisville, 1850, formerly dean of the Quincy (Ill.) Medical College, and during the Civil War, surgeon of the First Alabama Cavalry, died at his home in Quincy, Ill., October 2, from septicemia caused by a prick from an instrument eighteen days before, aged 74. Members of the Adams County Medical Society acted as pallbearers at the funeral.

Sam C. Johnson, M.D. Long Island College Hospital, Brooklyn, N. Y., 1864, formerly president of the Wisconsin State Board of Medical Examiners; a member of the American Medical Association, American Public Health Association, Wisconsin State Medical Society, and the Inter-County Medical Society, died suddenly at his home in Hudson, Wis., October 17, from heart disease.

David Rector McKinney, M.D. Medical College of Indiana, Indianapolis, 1878, of Banquo, Ind., an old practitioner of Champaign County, Ill., and some-time president of the county medical society, who was injured by falling from a train near Fithian, September 17, died as a result of his injuries at the home of his son in Gifford, Ill., September 29, aged 66.

William Danderson Wood, M.D. Castleton (Vt.) Medical College, 1854, one of the organizers and for several terms president of the Queen's County Medical Society, and surgeon of the Eighty-ninth New York Volunteer Infantry in the Civil War, died at his home in Jamaica, L. I., October 4, aged 82.

Cornelius Shepherd, M.D. University of Pennsylvania, Philadelphia, 1861, a member of the American Medical Association, died at his home in Trenton, N. J., October 7, after a lingering illness, aged 66. He was active in establishing the present school system in New Jersey.

Joseph Hinson Mellichamp, M.D. Medical College of the State of South Carolina, Charleston, 1852, of Bluffton, S. C., surgeon in the confederate service during the Civil War, and an eminent botanist, died on James Island, S. C., October 3, after a long illness, aged 74.

Albert S. Amerman, M.D. University of Michigan, Ann Arbor, 1871, of Rockford, S. Dak., twice a representative in the legislature, a pioneer physician and gold-seeker in the Black Hills, died at Rapid City, S. Dak., October 6, from dropsy, after a long illness, aged 54.

William Johnson Dale, M.D. Harvard University Medical School, Boston, 1840, for 21 years surgeon-general of Massachusetts, and acting medical director U. S. Army during the Civil War, died at his home in North Andover, Mass., October 7, aged 88.

George Landerkin, M.D. University of the Victoria College, Cobourg, Ont., 1862, died at his home in Hanover, Ont., October 4, aged 64. He was elected to the House of Commons in 1873, and subsequently occupied a seat in the house from 1882 until 1896.

Chas. F. Goodrich, M.D. St. Louis Medical College, 1866, assistant surgeon in the Ninth Missouri Volunteer Cavalry and a member of the American Medical Association, died at his home in New Haven, Mo., September 25, from apoplexy, aged 66.

James Davis Gardiner, M.D. Columbus (Ohio) Medical College, 1879, one of the oldest practitioners of Illinois, died at the home of his daughter in Farmer City, Ill., from paralysis, after an invalidism of four years, September 28, aged 83.

Edward E. Stonestreet, M.D. University of Maryland, Baltimore, 1852, secretary of the Montgomery County Board of Health, died, October 9, from heart disease at his home in Rockville, Md., where he had practiced for 51 years, aged 73.

Benjamin F. Rivers, M.D. Howard University, Washington, D. C., 1902, house physician of the Charleston Hospital and Training School for Colored Nurses, died at the home of his father on James Island, S. C., September 25.

Charles Blackwell Sweeting, M.D. London College Hospital, 1867, of Key West, Fla., a member of the American Medical and the Florida Medical associations, died in Brooklyn, N. Y., October 4, after a lingering illness, aged 58.

John Polson, M.D., a member of the American Medical Association, Medical Association of the State of Missouri and Linn County Medical Society, died at his home in Laclede, Mo., October 13, from typhoid fever, aged 61.

Edwin N. McPheeters, M.D. Tulane University, New Orleans, 1903, interne at the Natchez (Miss.) City Hospital, died at the hospital, October 2, a short time after an operation for appendicitis, aged 21.

George W. Bowen, M.D. University of Pennsylvania, Philadelphia, 1872, a member of the Philadelphia County Medical Society, died at his home in Philadelphia, September 30, aged 56.

Lyman M. Willard, M.D. University of Pennsylvania, Philadelphia, 1870, was found dead in bed, September 29, at his home in Loomis, Wash., with a bottle of chloroform in his hand.

Wilson W. Stroup, M.D. University of Pennsylvania, Philadelphia, 1874, committed suicide by shooting himself with a revolver at his home in Harrisburg, September 30, aged 54.

Charles G. Bowers, M.D. Medico-Chirurgical College, Philadelphia, 1903, of Brooklyn, N. Y., fell from a train near Jersey City, September 26, and was drowned, aged 25.

Thomas V. Gifford, M.D. Hygeio-Therapeutic College of New York, 1863, a noted opponent of vaccination, died at his home in Kokomo, Ind., September 25, aged 72.

J. Walter Burch, M.D. University of Maryland School of Medicine, 1903, died from obstruction of the bowels, in Baltimore, October 2, aged 26.

William A. Evans, M.D. New York University, 1859, died October 8, from gunshot wounds accidentally received, at his home in Aberdeen, Miss.

Michael C. Kreitzer, M.D. Jefferson Medical College, Philadelphia, 1850, died from apoplexy at his home in Philadelphia, September 25, aged 77.

John T. Slaughter, Jr., M.D. Atlanta Medical College, 1879, of Villa Rica, died at Grady Hospital, Atlanta, October 3, from appendicitis, aged 51.

W. H. Russell, **M.D.**, of Providence, **R. I.**, died recently and was buried September 21, the pallbearers being brother physicians of Providence.

Lyman N. **Mixer, M.D.**, an eclectic physician of Hastings, Mich., died September 22, from paralysis, after an illness of one week, aged 75.

John R. Goodale, **M.D.** Eclectic Medical College of the City of New York, 1872, died at his home in Oakland, Cal., September 26, aged 67.

Franz F. **A. Hoogen, M.D.** Missouri Medical College, St. Louis, 1886, of St. Louis, died at his winter home in Helwan, Egypt, October 7.

Armand Derivaux, **M.D.** Faculty of Medicine, Paris, France, 1876, a veteran of the Franco-Prussian War, died at his home in St. Louis recently.

Jesse Taylor, **M.D.** Eclectic Medical Institute, Cincinnati, 1897, died at his home in Vermont, Ill., October 2, after a short illness, aged 30.

Andrew Jackson **McIntyre, M.D.** University of Michigan, Ann Arbor, died from pneumonia at his home in Galatia, Ill., October 2.

J. Chester Pratt, **M.D.** Eclectic Medical College of the State of New York, 1891, died at Springfield, Mass., October 5, aged 36.

Dominick **F. Harang, M.D.** Tulane Medical College, New Orleans, 1901, died at his home in New Orleans, October 5, aged 25.

James M. **Brydon, M.D.** Medical College of Indiana, Indianapolis, 1875, died at his home in Chicago, September 29, aged 59.

John D. **Key, M.D.** Bellevue Hospital Medical College, New York, 1885, died at Halfmoon Bay, Cal., September 24, aged 40.

James **Nixon Butt, M.D.** University of Pennsylvania, Philadelphia, 1855, died at his home in Orlando, Fla., September 29.

George K. **Elder, M.D.**, of Kansas City, Mo., died at Toledo, Ohio, October 1, from dropsy complicated with asthma, aged 50.

James W. **Akers, M.D.**, Jefferson Medical College, Philadelphia, 1876, died at his home in Curran, Ill., September 28.

A. M. **Jackman, M.D.** University of Louisville, 1874, died at his home near Kendall, Ky., October 3, aged 64.

William G. **Montgomery, M.D.**, of Minden, Ont., died at Gorrie, Ont., September 8, aged 29.

George W. **Henderson, M.D.**, died at his home in Waynesville, Ohio, September 27.

W. Frank **Park, M.D.**, died at his home in Tracy City, Tenn., September 30.

Deaths Abroad.

Theophile **Roussel, M.D.**, died at his country home at Mende, September 27, aged 87. He was venerated throughout France for his active and enlightened philanthropy, and especially as the author of the laws for the protection of children, nurslings boarded out, factory children and those abandoned and ill treated. He served for many years as senator from Lozère and on important committees. His eightieth birthday was the occasion of an ovation from the authorities and the public in general, the government presenting him with a gold medal. His published works on medical and hygienic subjects are numerous, his "Public and Private Charities" being the standard reference book on this subject.

A. Rollett, **M.D.**, one of the most prominent physiologists of his day, died at Graz, October 1, aged 70.——**E. Pflueger,** M.D., professor of ophthalmology at Berne, died September 28, aged 57.——**A. Regnard, M.D.**, "inspecteur général des services administratifs" at Paris, died September 28, aged 77. ——E. Boisseau, **M.D.**, chief of the army sanitary service of France, died at Paris, September 25.

H. R. Pott, **M.D.**, died at Halle, September 25, aged 59. He was born and graduated at Halle and has served there as professor of children's diseases since 1883. He was a frequent contributor to the medical press on subjects connected with internal medicine and pediatrics.

P. Goetsch, **M.D.**, died at Slawentzitz, September 24. His report of the remarkable success obtained at the sanatorium in his charge by treatment of tuberculosis with long continued, minute doses of tuberculin, attracted much attention three years ago.

R. Landau, **M.D.**, died at Nuremberg, September 21, aged 39. His name is well known by his numerous contributions to the medical press and his works on the history of medicine, especially his "History of Jewish Physicians."

F. Wuerth, M.D., died at Freiburg in September, aged 98. He had long been the oldest practicing physician in Germany, his medical degree dating from 1828.

Miscellany.

A Medical Museum.—Rush Medical College, Chicago, has established a museum in which will be preserved and exhibited permanently objects of interest and value in the history of medicine. Especial attention will be given obsolete instruments and appliances for the diagnosis and treatment of disease. Many physicians and others have instruments that perhaps even a short time ago were in use, but which have been laid away for more recent inventions; these are of historical value. Medicine in the United States has so brief a history that it should not be difficult to represent in this museum its complete development in the instruments and appliances that have come and gone, that have been of great value, but have given place to better inventions as the art has progressed. The late Professor Fenger bequeathed his own instruments to this museum, and it was the wish of this thoughtful man that his gift should be but the foundation for a collection that would show the development of the art he loved and for which he did so much. Rush Medical College has set aside a commodious room in the newly-opened Senn Hall for the permanent use of this museum. Gifts will be inscribed with the name of the donor, and any remarks as to their history, original owner, user, etc., that may increase their interest. All other objects that have any interesting relation to the history of medicine or to renowned physicians will be given place, such as original manuscripts, autograph letters, portraits, etc. Information may be had by addressing Rush Medical College, Chicago.

[Signed] DR. F. HENROTIN.
(Class of 1868.)

State Boards of Registration.

COMING EXAMINATIONS.

Louisiana State Board of Medical Examiners, Tulane Medical College Bldg., New Orleans, Oct. 26-27.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Board of Registration of Medicine of Maine, Augusta, Nov. 11.

District of Columbia Report.—The Board of Medical Supervisors of the District of Columbia, in their sixth annual report, say that they have decided, after long consideration of the subject, that reciprocity is impossible without an amendment of the law under which they operate. They announce plans for the prosecution of those who are practicing criminally, and those who are liable to a revocation of license for other reasons.

Ohio Reciprocity.—The State Board of Medical Registration and Examination of Ohio adopted the following resolution at its regular meeting, October 6, 1903:

The Ohio State Board of Medical Registration and Examination will dispense with the examination of a candidate presenting a license from another state board, or from the Board of Examiners of the District of Columbia, issued after an examination on which a general average of 75 per cent. was obtained, on payment of the fee, $50, required by law: provided, the applicant was, at the time of such examination, the holder of a diploma from a medical college recognized as in good standing by the state board of Ohio, and provided that the applicant has complied in all other particulars with the laws of Ohio governing the practice of medicine and surgery and the rules of the Ohio State Board of Medical Registration and Examination, and provided that the state board issuing such license will, in like manner, accept the license issued by this board.

Book Notice.

A TEXT-BOOK OF OBSTETRICS. By J. Clarence Webster, M.D. Edin., F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago. With 383 Illustrations; 23 in Colors. Cloth. Pp. 761. Price, $5.00 Philadelphia, New York, London: W. B. Saunders & Co. 1903.

Webster has adopted a different arrangement from that usually found in works on obstetrics. He first considers normal pregnancy, normal labor, and the normal puerperium, then their pathology in the same order, followed by operative obstetrics. In part one, consisting of seven chapters, are considered the anatomy and physiology of pregnancy, bacteriology of the vagina, diagnosis, length of gestation, multiple pregnancy, false pregnancy and management of pregnancy. The first chapter on the anatomy and physiology of pregnancy is the most important from the scientific viewpoint. The theme is one on which the author is especially qualified to write, as it is one to which he has devoted much time in research and investigation. Naturally, therefore, we might expect to find all the latest scientific views and most recent established facts regarding placentation, etc. The author has not only given us these, but being thoroughly master of the subject, he is able to present the matter clearly and lucidly and in such a manner that the ordinary student can easily grasp and master it. This is especially noticeable in the discussion of the anatomy and physiology of the fetus. In the chapter on the bacteriology of the vagina in pregnancy is given, in brief, the results of the various experimental investigations and examinations of the vaginal secretions, and the author concludes that douching for prophylactic purposes either before or after confinement is unnecessary, unless there has been exposure to contamination. The subjects of diagnosis of pregnancy, length of gestation, and management of normal labor are considered fully and in every detail. In the five chapters of part two are considered the clinical phenomena, anatomy and physiology, and conduct and management of normal labor, together with asepsis and antisepsis and anesthesia. The chapter on the anatomy and physiology of normal labor is accompanied with illustrations that are especially to be commended, many of them being taken from frozen sections, and all being true to nature. As might be expected, the author is very insistent and emphatic regarding the value of asepsis in labor; but not too much so. He is not a faddist and his recommendations and suggestions are practical and can easily be carried out by every practitioner. The three chapters in part three are devoted to the management of the puerperium and the care of the new-born child. In part four—fifteen chapters—the diseased conditions complicating pregnancy are considered. Part five, composed of five chapters, is devoted to the various complications of labor; part six—three chapters—to the pathology of the puerperium, and part seven—six chapters—to operative work. Every subject is thoroughly covered and no detail, so far as we can find, has been omitted. The author recognized that thorough knowledge of the anatomic and pathologic changes that occur in pregnancy, in labor and in the puerperium is a necessary basis for a clear understanding of the various complications and conditions that are to be met in obstetric work, and consequently more than usual attention is given to these subjects. The work represents the most modern views—those that are based on proven facts; it is scientific in the best sense of the word, and at the same time it is practical. It is written for the scientific student and also for the general practitioner who does the major portion of obstetric work. In considering the management of complications and the treatment of conditions the directions are given with clearness and exactitude, and only those methods and remedies are recommended that have been proven. The illustrations are especially to be commended. While we miss many of the old reliable cuts that have done service for so long and in so many books, yet in their places are those more in accord—artistically and for practical use—with present-day knowledge and requirements. As a whole, the book represents as much of a step forward in the obstetric literature of our day as did the classic work of Lusk nearly a quarter of a century ago.

Medical Organization.

California.

SHASTA COUNTY MEDICAL ASSOCIATION.—Physicians of the county met at Redding, September 21, with Dr. Andrew W. Morton, San Francisco, trustee of the state society, and organized a county society to be auxiliary to the state organization. Dr. Olin J. Lawry was elected temporary president, and Dr. R. F. Wallace temporary secretary, both of Redding; Drs. R. F. Wallace, John M. Read and Joshua T. Rohn, all of Redding, were appointed a committee to complete the organization and to draft a constitution and by-laws.

Indian Territory.

NORTHERN DISTRICT MEDICAL SOCIETY.—The physicians of the Northern District of the Indian Territory have organized with the following officers: Dr. Benjamin F. Fortner, Vinita, president; Drs. William T. Tilly, Pryor Creek, and Frank L. Wormington, Miami, vice-presidents, and Dr. Robert H. Harper, Afton, secretary and treasurer.

Indiana.

VIGO COUNTY MEDICAL SOCIETY.—Dr. Myron A. Boor, Terre Haute, councilor for the Fifth District, met the Vigo County Medical Society at Terre Haute, October 1, and explained the plan of reorganization recommended by the American Medical Association. The society then adopted the standard constitution and by-laws.

FOUNTAIN COUNTY MEDICAL SOCIETY.—On October 1 this society, one of the oldest in the state, met at Covington and reorganized, adopting the standard constitution and by-laws. Dr. Paul J. Barcus, Crawfordsville, councilor for the Ninth District, was present and aided in the reorganization. Dr. Charles J. Wert, Kingman, was elected president, and Dr. George Rowland, Covington, secretary-treasurer.

Iowa.

MUSCATINE COUNTY MEDICAL SOCIETY.—This society made a complete reorganization, October 8. The charter membership was 20. Dr. Henry M. Dean was made temporary chairman, and Dr. Thomas F. Beveridge temporary secretary, both of Muscatine. The temporary organization was made permanent.

SAC COUNTY MEDICAL SOCIETY.—Physicians of the county met at Sac City, October 6, and organized this society. The following officers were elected: President, Dr. Thomas Farquhar, Early; vice-president, Dr. William Y. Herrick, Lytton; secretary, Dr. Frank H. McCray, Schaller; treasurer, John H. Stalford, Sac City, and censors, Drs. Zachary Fuller, Sac City, John W. Graham, Early, and Andrew T. Brenton, Sac City.

WASHINGTON COUNTY MEDICAL SOCIETY.—The annual meeting was held in Washington, October 8. Dr. Charles E. Ruth, Keokuk, councilor for the First District, was present and explained the plan of reorganization, and the society adopted a constitution and by-laws in accordance therewith. The following officers were elected: Dr. George W. Hay, Washington, president; Dr. Charles W. McLaughlin, Crawfordsville, vice-president; Dr. Clyde A. Boice, Washington, secretary and treasurer; Dr. Edward R. Jenkins, delegate to Iowa State Medical Society, and Drs. William E. Fordyce, Ainsworth, Emmett T. Wickham and J. C. Boice, Washington, censors.

Louisiana.

WEST BATON ROUGE PARISH MEDICAL SOCIETY.—On October 1, six of the seven available physicians of the parish met at Devall, and organized a parish society with Dr. Franklin H. Carruth, Lobdell, president; Dr. James O. St. Dizier, Walls, vice-president, and Dr. H. Guy Riche, Devall, secretary-treasurer.

EAST FELICIANA PARISH MEDICAL SOCIETY.—Physicians of the parish met in Wilson, October 3, and organized, with the assistance of Dr. John M. Barrier, president of the state society. Dr. S. L. Singletary, Wilson, was elected president; Dr. Aquippa Gayden, Norwood, vice-president, and Dr. E. C. McKowen, Jackson, secretary and treasurer.

EAST BATON ROUGE PARISH MEDICAL ASSOCIATION.—Dr. J. M. Barrier, Delhi, president of the Louisiana State Medical Society, met the physicians of the parish at Baton Rouge, October 1, and organized a parish society with 12 members. The following officers were elected: Dr. James W. Dupree, Baton Rouge, president; Dr. George W. Sitman, Burtville, vice-president, and Dr. Charles McVea, Baton Rouge, secretary and treasurer.

VERMILION PARISH MEDICAL SOCIETY.—Dr. Milton R. Cushman, Abbeville, was chairman, and Dr. Clarence J. Edwards, Abbeville, secretary, of an informal meeting of physicians of

the parish, October 3, at Abbeville, for the purpose of taking steps to reorganize in accordance with the plan proposed by the American Medical Association. It was resolved not to go into permanent organization until all the reputable physicians of the parish had been afforded an opportunity to participate. The meeting then adjourned until October 15.

North Carolina.

Cleveland County Medical Society.—Dr. Edward C. Register, Charlotte, organized a county medical society at Shelby, September 12.

Davie County Medical Society.—Dr. Thomas E. Anderson, Statesville, councilor for the Fourth District, met physicians of Davie County recently and organized a county society with Dr. M. D. Kimbrough, Mocksville, president; Dr. Robert L. Rierson, Cooleemee, vice-president, and Dr. W. C. Martin, Mocksville, secretary and treasurer.

Duplin County Medical Society.—Dr. Frank H. Russell, Wilmington, at Warsaw, October 2, organized a county society with the following officers: Dr. John M. Faison, Faison, president; Dr. A. N. Smith,, Magnolia, vice-president; Dr. Benjamin R. Graham, Wallace, secretary and treasurer, and Drs. J. W. Carroll, Wallace, James M. Williams, Warsaw, and Albert F. Williams, Kenansville, censors.

Columbus County Medical Society.—Dr. Frank H. Russell, Wilmington, on September 29, organized a county society whose membership is said to include every physician in the county. The following officers were elected: President, Dr. N. A. Thompson, Whiteville; vice-president, Dr. Samuel M. Withers, Chadbourn; secretary and treasurer, Dr. J. Clegg Hall, Boardman, censors, Drs. John M. McGougan, Cerro Gordo, David B. Jordan, Cronly, and Henry B. Maxwell, Whiteville.

Mecklenburg County Medical Society.—This society was organized at Charlotte, October 7, with an initial membership of 41, under the standard constitution. The following officers were elected: Dr. Harry Q. Alexander, Davenport, president; Dr. Annie L. Alexander, Charlotte, vice-president; Dr. Parkes M. King, Concord, secretary and treasurer; Drs. Walter P. Craven, Charlotte; I. Wellington Faison, Charlotte, and Theodore F. Pharr, Harrisburg, censors, and Drs. Edward C. Register, Calvin S. McLaughlin and F. O. Hawley, all of Charlotte, committee on public health and legislation.

North Dakota.

Sixth Judicial District Medical Society.—The physicians of the Sixth Judicial District organized at Bismarck with the following officers: Dr. Francis R. Smyth, Bismarck, president; Dr. G. E. Chamberlain, Bismarck, vice-president; Dr. Frederick B. Strauss, Glenullin, secretary-treasurer, and Drs. George A. Perkins, Dickinson, Gilbert B. Furness, Mandan, and Nels O. Ramstad, Bismarck, censors. A committee was appointed to draw up a constitution and by-laws conforming to the recommendations of the American Medical Association.

Ohio.

Henry County Medical Society.—On October 7, Dr. Julius H. Jacobson, Toledo, councilor for the Fourth District, organized at Napoleon a county society, with the following officers: President, Dr. Eugene B. Harrison, Napoleon; vice-presidents, Drs. Harry P. Haag, Liberty, and Ora L. Norris, Deshler; secretary and treasurer, D. Alfred E. H. Mearker, Napoleon, and censors, Drs. John Bloomfield, Napoleon, Samuel E. Miller, Florida, and James D. Archer, Holgate.

Texas.

Parker County Medical Association.—Dr. Charles E. Cantrell, Greenville, councilor for the Fourteenth (North Texas) District, organized this association at Weatherford, October 5.

Fannin County Medical Association.—Physicians of the county met at Bonham, October 5, and organized with Dr. John M. Neel, president; Dr. Carey A. Gray, vice-president, and Dr. Alvis B. Kennedy, secretary and treasurer, all of Bonham.

Bell County Medical Society.—On October 3, 39 physicians of Bell County met at Belton and organized on the standard plan with the following officers: Dr. Jacob M. Frazier, Belton, president; Dr. J. H. Payne, Holland, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

Big Springs District Medical Association.—This has been organized at Colorado with the following officers: Dr. William H. Morrow, Dunn, Scurry County, president; Dr. Preston C. Coleman, councilor for the Second District, Colorado, vice-president, and Dr. Willis R. Smith, Colorado, secretary and treasurer.

Wisconsin.

Price County Medical Society.—Dr. John M. Dodd, Ashland, councilor for the Tenth District, organized a county society at Phillips.

Monroe County Medical Society.—Physicians of the county met at Sparta, October 6, and organized under the standard constitution. The following officers were elected: President, Dr. George R. Vincent, Tomah; vice-president, Dr. Crawford E. Phillips, Wilton; secretary and treasurer, Dr. Carl M. Beebe, Sparta; delegate to the Wisconsin State Medical Society, Dr. Wilbur T. Sarles, Sparta, and censors, Drs. Jacob J. Simonson, Tomah, Cornelius H. Cremer, Cashton, and Fred P. Stiles, Sparta.

Society Proceedings.

COMING MEETINGS.

Congress of State and Provincial Boards of Health of North America, Baltimore, Oct. 23-24.

American Public Health Association, Washington, D. C., Oct. 26-30.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.

Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.

Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.

Western Surgical and Gynecological Association, Denver, Dec. 28-29.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(*Continued from page 982.*)

Is Registration and Disinfection a Successful Method of Combating Pulmonary Consumption?

Dr. Thomas J. Mays of Philadelphia read this paper at the second session of Section A, Wednesday afternoon, September 23. He gave an elaborate array of statistics and concluded that thus far registration and disinfection do not appear to be a success in combating consumption.

Dr. Lawrence F. Flick, Philadelphia, in speaking on "The Prevention of Tuberculosis," called attention to the fact that many deaths formerly accorded to bronchitis, inanition, etc., are now recorded strictly under the tables they should be, because there is a clear diagnosis of tuberculosis and not of pneumonia or of bronchitis.

The Specific Treatment of Tuberculosis.

Dr. Mazyck R. Ravenel, Philadelphia, reviewed the attempts made to discover a specific against tuberculosis. He believes that past results justify the strongest hope that the immunization of man against tubercle bacillus may be realized in the near future.

Trauma and Phthisis.

Dr. William T. English, Pittsburg, read a paper on "Trauma as an Etiologic Factor in Phthisis Pulmonalis." He believes that passive predisposition is often rendered active by the intervention of traumatism, and states that injury awaits the thorax and contained organs from the period of formation *in utero* throughout all independent existence, and that resulting traumatism has the power to produce phthisis pulmonalis, or to make more favorable the soil for tubercular deposit. The author emphatically declares that it is unfair to withhold sick benefits and remuneration for accident from those who develop phthisis pulmonalis after injury. Out of 128 cases in injury followed by traumatic pneumonia the writer finds that about 63 per cent. were associated with fracture. The conclusion seems justified that over 48 per cent. of those recovering from the immediate results of the injury and pneumonia developed pulmonary phthisis.

Discussion on Tuberculosis.

Dr. Lawrence F. Flick said he thought it would be a little bit dangerous in the sense of equity to conclude that because a person has developed tuberculosis which has been preceded by traumatism that he is entitled for damages in a suit for damages. He is of the opinion that there has been previously the implantation of the disease. He also thought that the

statistical tables presented by Dr. Mays were exceedingly misleading. The mere fact of an increase in the death rate of tuberculosis means nothing unless all other factors are excluded.

DR. M. V. BALL inquired whether Dr. Flick would advise the establishment of sanatoria in a county such as his, one of the very dampest, and thus deprive the patients of seeking a more favorable climate.

DR. ALEXANDER R. CRAIG said that in sanatoria under the management of the Massachusetts State Board of Health, in spite of the fact that the country is damp and the land is somewhat low, the results shown in the work are extremely gratifying. He assumed that there were many in Warren County who could not get out of their own county, and that it was better to give them the benefit of a sanatorium.

DR. A. C. WENTZ, Hanover, said that the majority of the profession must first learn to recognize a tubercle bacillus before they can decide when a man shall go to such and such a place for his health.

DR. MAYS said that he believed that no more blunders occurred twenty years ago than occur now in physical diagnosis of lung diseases. Notwithstanding that New York has followed the methods of disinfection and registration, Dr. Mays stated his statistics show that in New York the death rate from pneumonia has been the highest in the last ten years of any city or locality. The death rate of phthisis, consumption and tuberculosis has diminished in New Jersey and in Washington in the last fifteen or twenty years, but in these places there has not been registration or disinfection.

DR. FLICK called attention to the death rate of pneumonia in children referred to by Dr. Mays, and stated that ten or fifteen years ago nearly all deaths from lung disease in children were recorded as bronchitis, while now they are known as pneumonia. This is also true concerning the death rate of old age. This has been the cause of the increase of the death rate of pneumonia.

Committee on School Text-Books.

The report of the committee appointed to examine school text-books, which is given above (page 925, October 10) was, after much discussion, laid on the table and a new committee of five was appointed to continue the work of examination and scientific comment on the text-books of physiology and hygiene used in the public schools of Pennsylvania.

Family Periodic Paralysis.

DR. GEORGE F. HOLTZAPPLE, York, read a paper by this title at the third session of Section A, Thursday morning, September 24. He gave a history of the affection as he had seen it in a family extending through four generations. Of the family of which the author writes a number have died in an attack. The cases were minutely described, and their characteristic symptoms and clinical phenomena correspond to those of cases previously observed by European and American investigators. The author believes that a postmortem would doubtless reveal much explanatory of the pathology. Personally he regards the condition one of vasomotor neurosis affecting the blood supply to the anterior horns which are almost wholly supplied by the anterior spinal artery. Believing that the attacks of hemicrania and paralysis in this family have a common cause and assuming that both conditions are a vasomotor neurosis, large doses of bromids with caffein were used, repeated in one or two hours if necessary. Prophylaxis he regards as an important matter in some cases. With a view to making a decided impression on the nervous system only large doses of bromids have been used.

Case of Cerebral Thrombosis with a Skiagraph Showing the Area of Softening.

DRS. CHARLES W. BURR and G. E. PFAHLER, Philadelphia, described the case of a woman 67 years of age who had had a stroke 30 years before, resulting in a right-sided hemiplegia and aphasia. Although she had complete motor aphasia, word blindness and agraphia, word deafness was not complete. The auditory speech center, however, was completely destroyed. There was some word deafness. Dr. Pfahler had made a skiagraph postmortem, having replaced the brain for the purpose. The picture showed many of the normal contents of the skull and the area of softening. Stress was laid on the fact that in interpreting skiagraphs little dependence could be placed on the results, unless the normal structures came out well. If they failed to be shown appearances seemingly abnormal might be so or not. The value of skiagraphy in the differential diagnosis of hemorrhage and thrombosis from hemiplegia occurring in uremia without any gross cerebral lesion, was considered.

DISCUSSION.

DR. PFAHLER said that Dr. Charles K. Mills had reported three cases of brain tumor in which the skiagraphic report was confirmed by operation. One was of unusual interest from the fact that it was a gumma and was only about half an inch in thickness. The shadow shown corresponded exactly in size, shape and location with the gumma removed.

(To be continued.)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held at Memphis, Oct. 7 to 9, 1903.

(Continued from page 982.)

This meeting was held under the presidency of Dr. Edwin Walker, Evansville, Ind. His president's address on the conduct of the practice of the general practitioner will be published in THE JOURNAL. The meeting was a great success from a scientific standpoint, although the attendance was no larger than usual. The papers were of unusual merit and were of practical value to the practitioner, establishing a standard perhaps higher than that of any previous meeting. The long discussions on the much-fought-over points in pneumonia and appendicitis treatment were lacking and the other papers were actively discussed. The social side of the meeting included an old southern barbecue, a reception and ball, a trolley party and other events and made this feature of the meeting one of unusual pleasure to all.

The Decision to Operate.

DR. AP MORGAN CARTLEDGE, Louisville, Ky., in the address in surgery, said that the physician or surgeon who decides that an operation should be performed should be keenly alive to the alarm and perturbation his announcement would cause to both patient and friends. Therefore, he should be prepared to make such announcement with the greatest clearness and candor, mingled with as much encouragement and hope as the condition would justify. He sounded a note of warning against the too common practice of treating surgical operations as trivial affairs, free from danger and pain.

The following four papers, which were read, will be published in THE JOURNAL: "The Causes of Occasional Failure of Operation to Cure Gallstone Disease," by Dr. W. J. Mayo, Rochester, Minn.; "Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen," by Dr. John Young Brown, St. Louis; "The Importance of Medical Organization in Securing and Enforcing Medical Laws," by Dr. T. J. Happel, Trenton, Tenn.; and "Treatment of Tubercular Joints," by Dr. David C. Peyton, Jeffersonville, Ind.

The Prevention of Heart Disease.

This was the subject of the address in medicine by Dr. Robert H. Babcock, Chicago. He regarded the removal of all chronically diseased tonsils as of the utmost importance in all persons who had had once an attack of inflammatory rheumatism, whether the heart had been damaged or not. The physician should guard against the results of syphilis, gonorrhea, pneumonia, chorea, scarlatina, influenza, diphtheria, overstrains and toxic affections, constantly bearing in mind the liability to cardiac mischief.

Medical Organization.

DR. J. N. MCCORMACK, Bowling Green, Ky., stated that it was only a question of time when every state society in the Union would adopt the plan of reorganization of the American Medical Association. The results thus far accomplished are

very encouraging. Within the last two years progress has been very rapid in many states. For instance, in Michigan the membership of the state society within one or two years has increased from 490 to almost 2,100 members; in Kentucky from less than 400 to nearly 1,600. Dr. McCormack urged physicians to establish pleasant relations with one another. With this idea in view every physician in the United States should begin to do good, and soon personal bickerings would be at an end.

Relation of the Medical Department of the United States Army to the Profession.

MAJOR W. C. BORDEN, U. S. A., Washington, D. C., delivered an address on this subject. The medical department of the United States Army is recruited from all parts of the United States, and is, therefore, in a way representative of the medical profession of the country. Men from all prominent medical schools and hospitals are found in its ranks. The standing and efficiency of the medical department are of importance to the medical profession, not only as it is in part representative of that profession, but also from the important relation which it bears to the efficiency of the Army as a whole, and, therefore, the interests of the nation at large.

The ranking of medical officers below that of officers of other staff departments is distinctly derogatory to the dignity of the profession, and the profession at large should see that the medical department of the Army receives due recognition.

Only by mutual assistance and support can the profession attain its highest end. This is true of the various professional societies and of the medical departments of the Navy, the Army and the Public Health and Marine-Hospital Service.

In the past the relationship between the officers of the medical department of the Army and the profession at large has always been close, and thereby the officers of the medical department have kept in touch with the great advances in medicine and surgery which the civil practitioner in time of peace has the greatest opportunity to practice. In return, in time of war the civil practitioner called into the military service has to look to his brother in medicine, who has spent his life in the military service, for those details of medico-military work on which the efficiency of an army depends, and by which sickness and suffering may be prevented or alleviated under war conditions. At all times, therefore, greatest good to the greatest number and the best interests of the nation demand that the most cordial relationship, association and unity of endeavor obtain between the medical department of the Army and the profession at large. With this in mind, community of interest, mutual support, and work toward the common good of our fellows and our country will increase.

Hypodermatic Use of Mercury in Syphilis.

DR. S. P. COLLINGS, Hot Springs, Ark., said that the use of this method should be largely confined to cases in which there was a necessity for the patient to be brought rapidly under the influence of mercury.

Specialism in Its Modern Significance.

DR. ALBERT B. HALE, Chicago, said that no real dividing line separates the branches of medicine, but modern specialism means time to devote to the delicate technic of diagnosis and of treatment. If these functions are not recognized for the patient's good, but if every practitioner accepts cases on which to practice, even when not equipped, the advance of true specialism is discouraged.

The Early Diagnosis of Mental Diseases.

DR. C. B. BURR, Flint, Mich., outlined the differential diagnosis of many conditions. Self-deception on the part of the physician or inaccuracy in diagnosis leads to improper methods of management. The prescription of travel often made for neurasthenics was deplored and hospital care was advised.

What a General Practitioner Should Do in the Early Stages of Mental Disease.

DR. BROOKS F. BEEBE, Cincinnati, said that the great progress in the treatment of mental diseases is a result of the recognition that psychology rests on physiologic bases, and metaphysical theories no longer have weight. In the treatment of mental diseases the intelligent physician should proceed in the same way as in treating other affections.

Masked Epilepsy.

DR. W. B. FLETCHER, Indianapolis, said this disease, usually unrecognized until it had progressed to a degree dangerous alike to the patient and those about him, presented one of the most intricate medicolegal questions. Little is known of the pathology. Among adults it is usually caused by alcoholic, syphilitic and autotoxic conditions. Treatment should begin with the mildest symptoms and war be waged on the vicious constitutional tendencies.

Local Lesions and Treatment of Amebic Dysentery.

DR. JAMES P. TUTTLE, New York City, said that the value of flushing the bowel with cold water had been repeatedly proven. Flushings were given three or four times a day from a fountain syringe, in winter using water direct from a hydrant, in summer adding a little ice. At least one douche a day was continued for eight weeks. Treatment of rectal ulcers should be carried on according to requirements. A summary of the author's experience was: Total cases treated, 63; cured, 61; disappeared, 1; abscess of liver, 1; died, none.

Neuroses of the Stomach and Intestines.

DR. FRANK P. NORBURY, Jacksonville, Ill., read this paper and emphasized that the background of all was the neuropathic constitution. By using the methods which best combat this feature, and which best subserve the observation of the case and the carrying out of the details of treatment, e. g., the rest treatment, and by studying each case with the consideration of all etiologic factors, the results will be found highly satisfactory.

The Principles of the Diagnosis of Medical Malingering.

DR. JOHN PUNTON, Kansas City, discussed this subject in a very exhaustive and interesting paper. He narrated the case which he described in the *Kansas City Index-Lancet*, July, of which an abstract appeared in THE JOURNAL, Aug. 1, page 338, No. 69.

Infantile Paralysis; Its Nature and Treatment.

DR. ALBERT E. STERNE, Indianapolis, said this was essentially an infectious disease, and was regarded by some authors as the purest form of a true nerve tissue process. Unless epidemic, diagnosis was almost impossible before there was evidence of spinal involvement manifested. When the child first became ill, almost all symptoms pointed to an affection of the stomach, usually a couple of days before paralysis set in. If evidences of profound nervous involvement were found, associated with vomiting, it should serve as a diagnostic and prognostic warning. Counter-irritation should be used along the spine, antiphlogistic applications, and the constant use of dry cold to the vertebral column. Perfect rest should be maintained. No specific is known.

DR. A. C. WIENER, Chicago, in a paper on the same subject, said that, after nine months had elapsed, any therapeutic attempt was futile. Good functional results were obtained by a brace which would put the paretic muscles of the leg at an advantage over the stronger opponents. The permanent restoration of the balance of two opposing muscle groups might be effected in two ways: First, by implantation of the paralyzed tendon into a normal one of similar function. Second, splitting off a part of the belly of a healthy muscle with its tendon and connecting it with the tendon of a useless muscle. The greatest usefulness of tendon grafting would be found in the frequent cases of infantile cerebral paralysis.

Syphilitic Manifestations in the Nose and Pharynx.

DR. PAUL TURNER VAUGHAN, Hot Springs, Ark., spoke of the rarity of a primary sore in either of these localities. The primary sore should be cleansed with some antiseptic wash and dusted with some mild powder. Calomel is the best he has found. Locally caustics do harm in this stage.

The following papers were also read:

"Surgery of the Thyroid, Historical and Experimental, Illustrated with One Hundred Stereopticon Slides," by Dr. B. Merrill Ricketts, Cincinnati; "Dysmenorrhea" (treatment of nasal cocainization), by Dr. Emil Ries, Chicago; "Therapeutic Value of Heat and Cold Applied to the Spinal Cord," by Dr. W. Frank Glenn, Nashville.

Tenn.; "Brain Strain Dyspepsia," by Dr. C. H. Hughes, St. Louis; "Scarlet Fever," by Dr. J. M. Batten, Huntington, Pa.; "Diabetes," by Dr. A. C. Croftan, Chicago; "Leukemia," by Dr. W. B. Burns, Memphis; "Castor Oil in the Treatment of Typhoid Fever," by Dr. C. C. Bass, Columbia, Miss., (adding 47 more to the 32 cases already reported); "Chronic Intestitial Nephritis," by Dr. R. Alexander Bate, Louisville, Ky.; "The Use and Abuse of Fresh Air and Over-Feeding in Tuberculosis," by Dr. W. H. Prioleau, Asheville, N. C.; "Cyclical Albuminuria" (reporting two interesting cases), by Dr. Arthur R. Elliott, Chicago.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Gastric Ulcer.

According to an article in *Amer. Med.*, in cases in which there is free hydrochloric acid present in excess, bismuth must be given in 30-gr. (2.00) doses three times a day at a time when the stomach is as nearly empty as possible or one dose of 2½ drams (10.00) may be given every morning one hour before any food has been taken. Silver nitrate is valuable in mild cases, especially when hyperesthesia of the stomach is present with intolerance of food, and in chronic gastric ulcer when there is hypochlorhydria or achylia. It acts by producing a thin film of coagulated albumin over the inflamed mucous membrane around the sore. If pain is persistent after the treatment has begun, orthoform should be given in 5-gr. doses (.30) once or twice a day, which will give prompt relief. Patients suffering from chronic gastric ulcer should be kept on liquid food until the ulcer heals or when the epigastric tenderness has disappeared.

Welch, as noted by *N. Y. and Phil. Med. Jour.*, states that the treatment consists in: 1, rest in bed; 2, absolute rest for the stomach until improvement occurs; 3, symptomatic medication. The patient's strength must be cared for, and by giving the stomach complete rest healing is promoted and the tendency to vomiting, pain and hemorrhage decreased. So the patient must be nourished by rectal alimentation. The bowel must be flushed out one hour before the nutritive enema is given, with a pint of normal saline solution. When the rectal feeding is first given the food should be started in small doses and not oftener than once in eight hours. Iron, when anemia is present, may be given with the enemata. The following preparations are recommended as easily assimilated by the bowel: Defibrinated blood in amounts of 5 or 6 ounces at a time or somatose one teaspoonful; two eggs added to four ounces of peptonized milk. This method of feeding should be continued for ten days or two weeks. As to the treatment of the symptoms, thirst is controlled by the enemas and in addition small pieces of cracked ice may be given cautiously by the mouth. Pain and vomiting can often be relieved by external applications of the following mixture:

℞. Spts. chloroformi ..... ℥i 30
Alcoholis ..... ℥iii 90

M. Sig.: Apply locally to the epigastric regions on flannels.

In cases of obstinate vomiting the following is recommended:

℞. Sodii bromidi ..... gr. lxxx 5
Ext. cannabis indicæ ..... gr. ss 03

M. Ft. pulvis No. i. Sig.: To be dissolved in three or four ounces of water and administered by the bowel.

The hemorrhage which occurs in about one-half of all the cases is controlled by twenty to thirty drop doses of equal parts of turpentine and egg albumin. And for the collapse due to hemorrhage flooding the colon with salt solution and strychnin and digitalis hypodermically will be of use.

For the hemorrhage gelatin may be given internally in tablespoonful doses of a 5 to 10 per cent. solution every 3 or 4 hours or given hypodermically in weaker solutions. Adrenalin is also recommended given 10 to 15 drops of a 1-2,000 solution three or four times a day. Morphin may be resorted to in stubborn cases and even operation if perforation of the stomach wall should occur.

Leube recommends the following to relieve the pain in gastric ulcer:

℞. Codeinæ phos.
Ext. belladon., āā ..... gr. v 30
Bismuthi subcarb. ..... ℥i 4
Sacch. lactis ..... ℥i 4

M. Ft. chart. No. xv. Sig.: One powder two or three times daily.

The following combination is recommended by Hare to relieve the pain and to promote healing:

℞. Argenti nitratis ..... gr. iv 25
Ext. hyoscyami ..... gr. x-xx 65-1.30

M. Ft. pil. No. xx. Sig.: One capsule twenty minutes before each meal.

In the treatment of gastric ulcer the following combination is recommended by *Columbus Med. Jour.:*

℞. Picrotoxin
Morph. hydrochlor., āā ..... gr. i 06
Atropinæ sulph. ..... gr. 1/5 013
Ergotin ..... m. xx 1 30
Aq. laurocerosi ..... ℥iii 12

M. Sig.: Four to six drops ten minutes before each meal.

The following is also recommended:

℞. Argenti nitratis ..... gr. v 30
Tinct. opii ..... ℥iss 6
Aquæ anisi q. s. ad ..... ℥iiss 75

M. Sig.: One teaspoonful three times a day before meals.

Calcium Chlorid as a Hemostatic.

Bartignon, in the *Courier of Med.*, advises the employment of calcium chlorid as a hemostatic in hemorrhages from whatever source, in diseases presenting hemorrhagic tendencies, and especially in hemophilia. According to the author it surpasses in efficiency perchlorid of iron, antipyrin, ergotin, and at the same time is better tolerated by the stomach. He prescribes it as follows:

℞. Calcii chloridi (crys.) ..... ℥i 4
Syr. opii ..... ℥iii 90
Aquæ ..... ℥iv 120

M. Sig.: This amount to be taken in twenty-four hours and renewed so long as the hemorrhage continues.

Terpen Hydrate.

The following methods of prescribing terpen hydrate are recommended by *Rev. francaise de Med. et de Chir.:*

℞. Terpen hydratis ..... gr. 3/4 05
Terebenthinæ (Venice) q. s.

M. Ft. pil No. i. Sig.: One such pill four or five times daily; or:

℞. Terpen hydratis
Sodii benzoatis, āā ..... gr. 3/4 05
Ext. aconiti ..... gr. 1/65 001

M. Ft. pil. No. i. Sig.: Four to six such pills daily.

Phosphaturia.

According to an abstract in *Amer. Med.*, phosphaturia is nearly always associated with some dyspeptic disturbance. The treatment of this condition is rest and the regulation of the diet. Beef bouillon, eggs, brains, sweetbreads, fish, oysters, peas, lentils, turnips, celery and beans. The nitrogenous foods are generally diminished while the green vegetables and fruits are increased. In phosphaturia due to gout, the patient may be instructed to take a teaspoonful of the following for fifteen days three times a year:

℞. Sodii et pot. tartratis ..... ℥iii 90
Sodii bicarb. ..... ʒv 20

M. Sig.: One teaspoonful in water daily on an empty stomach.

In phosphaturia resulting from overwork, lecithin alternated with arsenic is advised. Lecithin may be given in three-grain doses three times a day for ten days, followed by the following combination, which should be taken for twenty days:

℞. Sodii arsenatis ..... gr. i 06
Aq. destil. ..... ℥x 300

M. Sig.: One dessertspoonful before breakfast and dinner.

Cod-liver oil is recommended, giving one or two teaspoonfuls three times a day. A combination of calcium glycerophosphate

and the glycerophosphate of iron may be substituted for the lecithin in anemic individuals.

Rheumatism.

L. G. Doane, in *Med. Bul.*, recommends the following combinations in the treatment of chronic rheumatism:

R.	Acidi salicylici	℥iii	12
	Ext. pruni virg. flu.	℥ii	8
	Ext. gentianæ flu.	℥i	4
	Elix. simplicis	℥v	150
M. Sig.: One teaspoonful every three hours; or:			
R.	Ext. taraxaci flu.	℥iii	12
	Ext. pruni virg. flu.	℥ii	8
	Ext. glycyrrhizæ flu.	gtt. ivss	25
	Elix. simplicis	℥v	150
M. Sig.: One teaspoonful every three hours.			

Syrup of the Iodid of Iron.

The value of the iodid of iron as a remedy and its range of usefulness is recalled by M. D. Hodge in *Cin. Lancet-Clinic.* The preparation should, as a rule, be given alone and well diluted after meals. The dose may range from five to sixty drops, as desired. He especially calls attention to its value:

1. In the early stages of phthisis, given in one-dram doses three times daily. It promotes secretion, acts as a diuretic slightly, and the weight of the patient increases.

2. In dry, rasping coughs of bronchitis it will soon relieve the congestion and increase the expectoration after the ordinary cough syrups have failed.

3. In amenorrhea and dysmenorrhea, in scrofulous women especially, it is of special benefit, the menstrual flow often being properly regulated. The dose in such cases should range from twenty to thirty drops after each meal.

4. In anemic individuals suffering from chronic rheumatic gout it is of service given in doses of one dram, combined with cod-liver oil.

5. In constitutional syphilis it is a valuable remedy.

6. In children with a strumous diathesis, enlarged cervical glands associated with catarrhal conditions of the throat, and enlarged tonsils, it should be given, administered in ten-drop doses three times a day. It produces marked alterative effect, hastening absorption and reducing the swollen glands and at the same time increasing the hemoglobin.

7. In cases of delayed resolution following croupous pneumonia it is a splendid reconstructive and tonic.

8. In the incontinence of urine in children it serves a good purpose given in twenty or thirty drop doses in water after meals.

Shoemaker recommends the following combination in the treatment of chronic bronchitis and pleurisy:

R.	Pot. iodidi	℥iv	15
	Syr. ferri iodidi		
	Glycerini, āā	℥iss	45
M. Sig.: One teaspoonful in water or milk after each meal.			

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

California—Requires License for Vending Drugs, Etc.—Chapter CCXXXIII of the Statutes of California of 1903 provides that no person, as principal or agent, shall conduct as an itinerant vendor the business of selling drugs, nostrums, ointments or any appliances for the treatment of disease, deformities or injuries, without a license. An annual fee of $200 is charged.

Arkansas—Provision for County Boards of Health.—Act 42 of the Acts of Arkansas of 1903 provides that the several county judges may appoint county boards of health for their respective counties to be composed of three physicians authorized to practice medicine in the state. A majority of the board shall be sufficient to make any order or perform any duty provided for in this act. The board is authorized to order the seclusion or the isolation of any persons, and any person who shall fail or refuse to obey the order, and who shall be found exposing himself in such a way as to transmit any contagious or epidemic or dangerous disease, shall, on conviction, be fined from $10 to $100, and may be imprisoned in the county jail not exceeding ten days.

California—To Regulate Practice of Optometry.—Chapter CCXXXIV of the Statutes of California of 1903 makes it unlawful to practice optometry without having obtained a certificate of registration from the board of examiners which the statute creates and having filed such certificate with the county clerk. The practice of optometry is defined as the employment of subjective and objective mechanical means to determine the accommodative and refractive states of the eye and the scope of its functions in general. An examination is required before the board, to be confined to such knowledge as is essential to the practice of optometry. Each succeeding year the certificate may be renewed for a fee of $2. The board may revoke any such certificate for conviction of crime, habitual drunkenness for six months immediately before a charge to be made, gross incompetency, or contagious or infectious disease. The act specifies that it does not apply to physicians, etc., authorized to practice in California, nor to persons who sell spectacles in the ordinary course of trade, and who do not employ mechanical means to determine the states of the eye as defined above.

California—Relative to Maternity Hospitals, Etc.—Chapter CCXXXIX of the Statutes of California of 1903 provides that any person who, without first having obtained a license in writing from the county health officers, conducts any maternity hospital, or who conducts any institution or other place for the reception or care of children, or who keeps at any such place any child under the age of 12 not his relative, apprentice or ward, without legal commitment; or who violates the provisions of this act, is guilty of a misdemeanor. Every such license must specify the name and residence of the person so undertaking the care of such females or children and the location of the institution and the number of females or children allowed to be received. Licenses shall be revocable for any violation of the provisions of the act, or in any case where, in the opinion of the licensing body, such place is being conducted without proper regard for the health, comfort or morality of the inmates thereof, or without due regard for proper sanitation or hygiene. Every person so licensed must keep a register of the names and addresses of all such females, the names and ages of all such children and of all children born on the premises, and the names and residences of their parents, so far as known, and the time of the reception and discharge of such children and the reasons therefor, and also the name and age of every child who is adopted or taken away, together with the name and residence of the person taking away the child; and within forty-eight hours shall cause a correct copy of the register relating to a child who is taken out to be sent to the county board of health or county health officer, as the case may be. It shall be lawful for all health officers, at all reasonable times, to enter and inspect the premises, to inspect the license and the register and to see and visit the inmates.

Arkansas—Against Unprofessional and Immoral Conduct.—Act 178 of the Acts of Arkansas of 1903 provides (Section 1) that any physician, surgeon or person practicing medicine who shall employ any solicitor, or drummer, or shall subsidize or employ any hotel or boarding-house, or advertise his business or remedies by untruthful or improbable statements, circulars or cards, or who shall obtain any compensation by any assurance that a manifestly incurable disease is curable, or who shall wilfully expose any professional secret learned from his patient, to the detriment of the patient, or who shall become a habitual drunkard and continue the practice of medicine, etc., or who shall administer any medicine or perform any operation while drunk, shall, on conviction, be punished by a fine of from $25 to $200, and by a revocation of his license. Section 2 provides that whenever any practitioner shall be convicted of any misdemeanor, involving moral turpitude, in addition to any other penalty shall be added a revocation of his license. Section 3 provides that if any practitioner shall commit the crime of abortion, or aid therein (provided

this section shall not apply to any abortion produced by any regular practicing physician to save the mother's life) he shall be adjudged guilty of a felony and punished by imprisonment in the penitentiary for from one to five years, and his license shall be revoked. Section 4 provides that any practitioner whose license is thus revoked may appeal, but shall not practice pending the appeal, and that if he does so practice, or attempt or offer to do so, he shall be punished in the same manner and to the same extent as if he had never had any license to practice. Section 5 provides that after one year from the date of the revocation of his license for these causes a practitioner may ask for and receive a new license, if he shall satisfy the board that he is qualified, has reformed and is worthy.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 10.

1 *The Electrothermic Angiotribe in the Removal of Hemorrhoids. A. J. Downes.
2 *On a Certain Form of Xanthoma or the "Mushroom Growth." W. Moser.
3 *The Dangerous Operation of Uterine Curettement. Ely Van de Warker.
4 *Sterility from Obstruction at the Epididymis Cured by Operative Means. Edward Martin.
5 Transient Postconvulsive Astereognosis in Jacksonian Epilepsy. Charles W. Burr.
6 *Edebohls' Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease and the Indications for Its Performance. James Tyson.
7 Stillbirth Due to Strangulation. J. Milton Mabbott.
8 The Treatment of Delirium Tremens. (To be continued.) J. R. Clemens and others.

1. **Hemorrhoids.**—Downes describes his electrothermic angiotribe and points out its advantages over Skene's instrument. He describes the technic of removal of hemorrhoids by this method, dilating the sphincter, using his self-acting anal speculum to expose the areas, seizing the pile area by a suitable narrow-bladed forceps so as not to encroach on the area to be included within the grasp of the angiotribe, then introducing the latter well oiled to crush the pile as near to its base as possible. The shield is then carefully applied and the proper current connected by attaching the cable to the poles near the proximal end of the healing blade. In twenty seconds, he says, it will be noticed that the tissues in the grasp of the blades are cooking, and this amount of current is allowed to act for about ten seconds longer, when the cable is disconnected. A few seconds later a knife should trim the projecting portion of pile from above the blades of the angiotribe, which should be loosened and removed, exposing a white, thin, sterile ribbon in the hollow of the shield. On removal of the shield the ribbon shrinks to the side of the bowel. The same procedure should be carried out on the various pile areas and at the completion of operation a number of bloodless sterile amputation tracks projecting into the bowel and parallel with its axis will be left. A little care is required so that the clamp may not take in the skin margin, though a little of this involved seems to obliterate the nerve filaments. There is never so much pain in this operation, he says, as in others. Unnecessary manipulation during efforts to clamp successfully the pile areas might open one or more ribbons already made, but this is far less likely to occur than with the clamp and cautery, and with proper technic should never happen. The postoperative period in all his cases thus operated on, 25 in number, was much less painful and cleaner than by the various other methods by which he has operated. He thinks it better to put a little gauze into the bowel. In case of fissures he uses his cautery knife and burns through the base of the fissure thoroughly after the completion of the hemorrhoidal operation. In one case he dissected a fissure and closed with catgut. He thinks this method will be very convenient for surgeons provided there is an electric current in the room, but its great practicability is hardly yet understood. He has lately developed a foot brake to turn on or off the current as desired, which places the operator in absolute control. The counting of seconds to get the proper amount of heat in the compressed tissue is necessary, but this is soon learned practically.

2. **Xanthoma or "Mushroom Growth."**—In the case reported by Moser the patient, a boy, was covered with bright yellow tumors of various sizes, chiefly over tendons and bursæ, varying in size from that of a pea to that of a hen's egg. The bases had usually a normal skin structure, were somewhat pinkish in color, had no inflamed areolæ and the tumors were not painful but annoying. He is inclined to consider the growth as a distinct type that may possibly become sarcomatous. Its chief distinctive features are reviewed as follows:

1. The large size of the tumors.
2. Their "mushroom" appearance.
3. Their smooth, even surface, being one mass, and not nodulated, tuberculated and fissured, as in the ordinary form of xanthoma tuberosum, which is formed by the coalescence of smaller masses or papules and is not infrequently associated with the macular variety of flat plaques or striæ, which in this case were conspicuously absent.
4. Their predilection for tendons and bursæ.
5. The absence of icterus.
6. The absence of glycosuria.
7. Their occurrence in childhood, which is very exceptional for xanthoma tuberosum, most cases occurring in middle life, especially in women.
8. Their subcutaneous character.

3. **Uterine Curettement.**—Van de Warker strongly objects to the too frequent use of curettement, especially the use of the sharp curette, pointing out the serious dangers of bowel perforation, etc. He says the text-books and surgical teachings are at fault in this matter. He gives instances of the bad effects and describes the proper aseptic measures required and the technic, character and treatment of complications, such as uterine perforations. In this latter case it would be necessary to see that there has been no hernia of the bowel or omentum through the wound. This will require a free opening. He thinks it is better in this case to incise the cervix clear up to the inner neck to allow the finger to pass freely, and if hernia has occurred it should be reduced. The probability is that it will not come down again, but if the rupture is extensive, gently applied strips of gauze pressed against the uterine side will prevent hernia. They should not be inserted into the wound, which would interfere with healing and contraction. Then the peritoneal cavity should be opened through the postvaginal space and wiped out with a sponge on a long curved holder, and gauze inserted to the level of the fundus and brought into the vagina. If the intestine is torn and it is necessary to open the abdomen, in case the uterine tissue is friable, no attempt should be made to suture the uterine wall, but slide a flap of peritoneum over the rent and suture with fine silk. The uterine rent can be left to itself. An abdominal incision adds enormously to the dangers in these cases and should never be done except to repair intestinal damage.

4. **Epididymis Anastomosis.**—Martin reports a case of sterility due to earlier urethritis and double obliterative epididymis in which repeated examination failed to show the presence of spermatozoöids. Operation was performed and spermatozoöids found in the tail of the epididymis. The vas deferens was implanted into the wound and sutured with a fine silver wire and the skin closed with catgut. The dressing slipped the next day, exposing the wound, which became infected and suppurated superficially. Later examination showed normal seminal fluid. The patient completely recovered, and his wife, on resuming sexual relations, was delivered of a normal girl baby exhibiting a striking resemblance to her father.

6.—This is abstracted in the report of the Pennsylvania State Medical Society in this issue.

Medical News, New York.

October 10.

9 Symposium: The Teaching of Therapeutics. Reynold W. Wilcox.
10 *From Pharmacologic Science to Therapeutic Art. Eli H. Long.
11 Recent Advances in Genito-urinary Surgery. James Pedersen.
12 On Last Year's Progress in Surgery. Carl Beck.
13 Recent Advancement in the Therapeutics of the Eye. John E. Weeks.

14 Report on Laryngology. Charles H. Knight.
15 *Recent Advances in Electrotherapeutics. William J. Morton.
16 Recent Advances in Orthopedic Surgery. Henry L. Taylor.
17 *Notes on Obstetric Therapeutics. Charles M. Green.
18 *Recent Advances in the Therapeutics of Pediatrics. Noble P. Barnes.

10. The **Teaching of Therapeutics.**—Long advocates the case method, or what may be called the Socratic method, where students and teachers meet for discussion of cases and their treatment. The discussion is given direction by the teacher, but each student is free to ask questions and state opinions. The marking is based on ability to develop or reason out points in the discussion. Various diseases are gone over and the student is expected to acquire a knowledge of the principles of treatment, the ability to weigh indications and contraindications and reason out a rational plan for each case, as also to learn the relative importance of hygiene and medicinal treatment and the various drugs to be employed. It gives him a more intimate knowledge of the remedies of greatest importance and those of subordinate or uncertain value, and a valuable medical training that he will need in actual practice.

15. **Electrotherapeutics.**—Morton reviews the advances in phototherapeutics, summing up by saying that all the artificial sources of light possess only a feeble power of penetrating living animal tissue until prior compression (as by Finsen in lupus) is employed. There is really but one conclusion to be drawn, and that is that all forms of solar, electric arc and other artificial lights are entirely supplanted in their efficacy and usefulness by the *x*-rays. These may in turn give way to Becquerel's radiations, but the present cost of radium is prohibitive. Recent advance in phototherapy, therefore, consists in an increasing clinical experience with the *x*-rays. In the selection of a working tube, a soft tube will do superficial work while the hard tube is better for deep structures and is safer. The question whether an *x*-ray burn can be a cancer nidus is answered in the affirmative and 4 instances noted. Morton also mentions the possibility of secondary infection of open cancer. The use of the Crooke's tube itself gives evidence of this in its attraction for dust, and what is true of the tube is equally true of the patient. The case is as if we sprayed the dust of the room directly into the ulcer. In conclusion he calls attention to the *x*-ray histofluorescence with which he has practiced for some time, and this may be considered as possibly an advance step in the treatment of cancer. It occurred to him he might administer a drug medicinally, capable of fluorescence, and at the same time increase its fluorescence in the tissues themselves by means of the *x*-ray. He can not affirm it, but he believes that cases treated by a combination of fluorescing medicines and the *x*-rays have made more improvement and more certain recoveries than cases not thus treated.

17. **Obstetric Therapeutics.**—Green discusses the use of antistreptococcic serum and the intravenous use of formalin for puerperal sepsis. He has observed 3 cases of ineffective formalin injections, "2 died in spite of, and 1 recovered notwithstanding, the use of formalin." A safe and effective intravascular antiseptic agent against the streptococcus is not known. He notices also obstetric asepsis and the use of suprarenal extract as an astringent and hemostatic in uterine hemorrhage. He goes at length into the subject of obstetric anesthesia, giving his own experiences with the scopolamin-morphin admixture recommended by Von Steinbüchel as an ideal anesthetic for obstetric use. Scopolamin hydrobromate and morphia nitrate were so combined that ten minims of the mixture contained 1/200 gr. of the former and 1/6 gr. of the latter drug; administered hypodermically. Some 16 cases of primiparæ thus treated are reported with good results. In 3 multiparæ it seemed to have less effect in relieving the pains. He remarks that as a result of these observations it would seem that in the scopolamin-morphin narcosis we have a valuable addition to our obstetric therapeutics. The combined drugs seem especially serviceable in primiparæ of nervous, excitable, hyperesthetic organization. The best results are obtained when the drugs are given early in the first stage as soon as nervous irritability appears. He remarks in regard to puerperal eclampsia that recent experience has taught him that in hyoscin and morphin in heroic doses we have a potent agent for the control of extreme restlessness and maniacal excitement. Three cases are reported. As regards the prophylaxis of the condition he says he has never had a case of puerperal eclampsia among women who have been under his care during pregnancy. All the cases he has seen have occurred in consultation or hospital practice. Careful attention to diet, hygiene, the condition of the nervous system and the functional capacity of the eliminative organs has brought him suitable results in cases where he has supervised the condition from the beginning. Nicholson's theory that the use of thyroid extract is indicated in eclampsia, the latter being due to thyroid inadequacy, Green considers worthy of further investigation.

18. **Pediatrics.**—Several points of interest are mentioned by Barnes: The importance of adapting children's clothing so as not to interfere with muscular development; the usefulness of thyroid in mammary inactivity; the danger from tuberculous milk; the treatment of anemia; the isolation of contagious diseases in children; the use of antistreptococcic serum in scarlet fever; the usefulness of guaiacol and creosote carbonate in pneumonia, and the valuable therapeutic advantages of lumbar puncture, as well as its diagnostic utility.

Medical Record, New York.

October 10.

19 *Fibrocystic Tumors of the Uterus; Their Etiology. Mary A. Dixon Jones.
20 *Copper in Syphilis. A. F. Price.
21 Aneurism of the Transverse Arch, with Obliteration of the Innominate and Left Common Carotid Arteries. U. S. Bird.
22 A Case of Combined Pyloric Cancer and Phlegmonous Gastritis. G. M. McCaskey.
23 Congenital Absence of Rectum with Imperforate Anus. G. W. Squires.

19. **Fibrocystic Tumors.**—Jones discusses the literature on the etiology of fibrocystic tumors, pointing out that the majority of cases that have been described are fibrocysts of tumors, and reports cases of fibrocysts of the uterine tissue itself. There is a change of the whole uterine tissue and the formation of partial blood cysts. She gives her ideas as to the formation of blood corpuscles and inflammatory bodies and claims that all abnormal growths are in a pathologic condition and in a state of change, and possibly in these cases are developing into even more serious conditions, such as malignancy, etc.

20. **Copper in Syphilis.**—Price notices the intolerance of copper in old syphilis, and the results of his treatment with small increasing doses. An experience of many years, he says, has led him to formulate his belief as follows:

1. The treatment of syphilis in all its stages, inclusive of the cachectic and the parasyphilitic forms, is well founded on sulphate of copper in the average dose of 1/30 gr., aided by such a quantity of blue mass as is borne readily by the patient.
2. In old syphilis in any form the copper salt must be given in minute doses, and gradually increased as tolerance is established, until the usual dose of 1/30 gr. is given, when the mercurial should be added in a rather small dose. It is sometimes better to give the medicine only on alternate days.
3. In acute syphilis the copper salt is to be given in the dose of 1/30 gr. and the mercurial added at once and increased as much as the patient will tolerate, in order that the disease shall be neutralized and eliminated as completely as possible.
4. Iodin, iron, arsenic and tonics of any sort, while useful, occupy a subordinate place in the treatment of syphilis.
5. Alcohol and, especially, tobacco, should be forbidden to syphilitics.

The Boston Medical and Surgical Journal.

October 8.

24 Memorial Meeting to John Homans, M.D. Addresses Read Before the Boston Society of Medical Improvement. Maurice H. Richardson and others.
25 *The Operative Treatment of Umbilical Hernia. J. Collins Warren.
26 *Vesico-intestinal Fistula. Joshua C. Hubbard.

25. **Umbilical Hernia.**—Umbilical hernia in children rarely comes under the surgeon's care, as it is usually kept reduced by a suitable support until the opening disappears and a cure is effected. The typical surgical case is that of a woman of middle or advanced life, corpulent habit and mother of a large family. The etiology seems apparently to be the changes of pregnancy and the relaxed condition in which the parts are left, the force of gravity and the pressure of clothing causing giving way of the weakened walls. As the adipose tissue accumulates, the cicatricial tissue of the umbilicus is drawn on

and drags the funnel-shaped fold of peritoneum through the true abdominal wall. While this form of hernia has generally been considered more liable to relapse than the others, recurrences, Warren says, are becoming fewer with improved conditions. This is not due to new methods but to more care in suturing and in perfecting the operation. The hernial sac should be exposed by two slightly curved incisions on the median line, meeting above and below and exposing the walls of the sac as far as the neck and surrounding aponeurosis. It should then be opened and the contents freed from adhesions and returned into the abdomen. If the omentum is matted together it had better be excised at a point below the portion usually occupying the sac. The sac should then be carefully excised and the vessels secured. The opening that is left in the abdominal wall is oval, with its long diameter lying at right angles to the linea alba. The peritoneum should, if possible, be separated from the fascia and secured by fine sutures. The edges of the hernial ring consist of the tendinous raphe formed from blending of the aponeuroses of the abdominal muscles. The accurate coaptation of these edges is important and is best effected by closing the ring transversely instead of vertically, which is much easier. The material used for suturing the peritoneum is fine silk, No. 8, such as is used for intestinal suturing; No. 10 silk is used for suturing the aponeurosis. Enough of this layer should be taken up to hold the sutures securely. Warren does not advise the use of quilted or complicated sutures or exposing the edges of the recti except in rare cases of wide separation. In aseptic wounds attention to the above-mentioned points is enough. The adipose layer and outer integuments should be trimmed with a knife so as to fall easily into apposition. This involves excision of the umbilicus and a certain amount of skin on either side. The adipose layer is then caught together by medium silk sutures and the skin united by silkworm gut. A new feature in the treatment of these cases is excision of the thick layer of adipose tissue, sometimes several inches in thickness in the median line. To remove this a median incision should be extended through the skin and subcutaneous adipose tissue from a point two inches below the ensiform cartilage to the transverse fold defining the upper limit of the mons veneris. The skin, with the adipose tissue still attached, is then dissected away until the integument has been freed as far as the loins. The vessels that are divided are easily secured. After hemorrhage has been arrested the skin should be attached to the aponeurosis by two or three catgut sutures to prevent dead spaces, and the edges of the skin should be united in the usual way by silkworm gut. This leaves a long cicatrix, but it contracts considerably with time. It is a better method than the transverse or crescentic-shaped incision by which the fold itself might be excised. He reports a number of cases from his practice.

26. **Vesico-intestinal Fistula.**—After reporting a case in detail in which the patient died in a postoperative delirium, Hubbard describes the condition, which is most frequent in males, three cases to one in women. This is partly due to the intraposition of the vagina between the bladder and rectum. The cause seems to be an inflamed perineum or inflamed new growth of the uterus and its adnexa, the primary focus invading secondarily the bladder and intestines thus forming a fistulous connection between them. The fistula is usually rectal, next to that in frequency the sigmoid and colon are involved, and occasionally the ileum. The symptoms are discharge of gas and fetid matter through the urethra and urine through the rectum. There are usually pain and vesical and rectal tenesmus, cystitis, pyelitis, etc., caused by the presence of the fecal matter, but sometimes the discharge of gas alone is the only symptom. He points out the various conditions which may need to be differentiated from it, such as the condition of the bladder after catheterization or litholapaxy or diabetes, which may develop the gas, and the possibility of the existence of fistula, with an intestinal opening into the urethra below the bladder. The prognosis depends primarily on the cause of the fistula and, in simple inflammatory fistula, largely on its size. Palliative treatment is devoted to keeping the bladder and rectum clean by thorough irrigation and drainage or in some cases by the position of the patient. He mentions the various methods of cutting for fistula, the rectal route, the perineal route, the sacral route, the vesical route, which is difficult, and the abdominal route. The best results appear to be with the rectal or perineal routes. The causes of death in the fatal cases have been peritonitis and shock.

American Medicine, Philadelphia.

October 10.

27 Construction of the Proteid Molecule. B. H. Buxton.
28 *The Rôle of Local Sanatoriums in Preventing the Spread of Tuberculosis. DeLancey Rochester.
29 Pyloric Carcinoma, with Symptoms Resembling Gastrocolic Fistula. David L. Edsall and Charles A. Fife.
30 Insanity as a Sequel to Physical Conditions. A. B. Richardson.
31 Case of Enlarged Pedunculated Middle Lobe of the Prostate, Suprapubic Protatectomy, Recovery; Followed by Epididymitis, Appendicitis, General Peritonitis, Recovery without Operation; Universal Eczema and Finally Cholelithiasis. Moses Behrend.
32 *Some Observations on Trachoma. A. A. Ripperger.
33 Eye Strain and Civilization. George M. Gould.

28. **Tuberculosis.**—Rochester would have two types of sanatoriums, one for the incipient cases and another for the chronic ones, but the essential point is removal of the patient from his surroundings. He remarks in favor of this, claiming that the procedure is not unprecedented and the good to the entire race from such sequestration kept up persistently for ten or fifteen years would far outweigh the slight psychic disturbance of the few. The bodies of all dead from tuberculosis should, of course, be cremated.

32. **Trachoma.**—Ripperger gives the results of his own experience, which seems to show that uncleanliness and close huddling together of people under unhygienic conditions favor the spread of the disease. He also remarks on the advantages of protargol in treatment.

Cincinnati Lancet-Clinic.

October 10.

34 The Doctor and the Public. E. Stuver.
35 Iodine and Its Use. Brose S. Horne.
36 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

American Practitioner and News, Louisville, Ky.

August 15.

37 Diagnosis and Management of Appendicitis. A. D. Willmoth.
38 Remarks on the Criminal Insane and Their Care. Joseph W. Irwin.
39 Cerebral Sclerosis. Orville A. Kennedy.
40 Address, Medical Department of the University of Louisville. W. H. McCracken.
41 *The Paroxysms of Whooping-cough Treated by Pulling the Lower Jaw Downwards and Forwards (Naegeli). Jacob Sobel.
42 A Case of Gastric Syphilis. H. A. Lefleur.
43 *Fibromata as Complications of Pregnancy. Reuben Peterson.

41. **Whooping Cough.**—Sobel calls attention to Naegeli's method of relieving paroxysms of whooping cough by pulling the lower jaw downward and forward, a procedure which has not been noticed to any extent by recent writers. He has used this method in all cases of whooping cough presenting themselves at the dispensary for children's diseases at the Beth Israel Hospital, New York, since June, 1901; a total of 96 cases, the age ranging from three months to eight years. No selection of cases was made and all stages were observed. He has had only 9 failures out of the 96 in which no effect on the paroxysm was produced by this method. He claims that the method is usually more successful in older children. In cases without the whoop the expiratory spasm with its asphyxia is generally overcome. The method deserves a place in the treatment of pertussis and is as successful as any other. It is harmless, painless, and easy of application. The only contraindication to it is the presence of food in the esophagus or mouth. A patient treated this way is less likely to suffer from complications and sequelæ than those treated only medicinally. Mothers and attendants should be instructed in the method. The best other treatment should accompany.

43.—This article appeared elsewhere. See THE JOURNAL of September 19, ¶50, p. 746.

The Laryngoscope, St. Louis.

September.

44 Some Critical and Desultory Remarks on Recent Laryngologic and Rhinologic Literature. (Continued.) Jonathan Wright.
45 Retropharyngeal Abscess; Report of Three Cases. L. C. Cline.

46 Case of Mastoid Suppuration Accompanied by Epithelioma. Carl E. Munger.
47 *The Import of the Salivary and Nasal Secretions in Hay Fever. D. Braden Kyle.
48 Report of Cases of Pyogenic Brain Diseases, Associated with or Caused by Acute and Chronic Nasal Suppuration. Thomas Hubbard.
49 Supernumerary Teeth in the Nose and the Maxillary Sinus. J. M. Ingersoll.
50 Presentation of Instruments. (Laryngotomy Canula, etc.) Chevalier Jackson.

47. **Nasal and Salivary Secretions in Hay Fever.**—Kyle thinks from a study of the saliva we can gain some idea as to variations in the chemistry of the body. He applies this suggestion to the etiology of hay fever, holding that there has not yet been determined a definite cause. He thinks in many cases local irritation of the mucous membrane is brought about by some chemical change in the secretion of the mucus-secreting glands, and that there is quite a field for investigation in this line to determine if the irritating material bringing about an attack is not manufactured within the system.

Medicine, Detroit.

September.

51 *Atony of the Stomach. J. H. Salisbury.
52 *The Prevalence of Tuberculosis, and Measures for Increasing the Individual Resistance to Its Attacks. F. M. Pottenger.
53 Compound Ovarian Cystomata. W. Ramsay Smith.
54 *Eye Complications that at Times Attend Measles. George F. Suker.
55 The Treatment of Acute Inflammations of the Middle Ear. Otto J. Stein.
56 A Glance at the History of Medicine. Charles D. Center.

51. **Atony of the Stomach.**—Salisbury agrees with Stiller as to the importance of the splashing sound and the floating tenth rib as signs of the condition. He concludes that mobility of the tenth rib marks an arrest of development connected in some way with imperfections in the abdominal organs manifesting itself particularly in atony of the stomach and intestines and corresponding atony of the ligamentous tissues and skeletal muscles, especially of the abdomen. The only common structure that we can suppose to produce this symptom is the nervous system, hence he refers all manifestations that follow this to disturbance of the nervous system affecting the nervous supply of the abdominal organs and corresponding external parts. The consequences of atony are, first, the imperfect mixture of the ingested food with the gastric secretions. Gaseous fermentation rarely occurs unless the food is retained too long, though other fermentations may develop, producing trouble. Other symptoms which are likely to occur are the entrance of bile from the duodenum through the relaxed pylorus and the prolongation of the digestive act beyond the time when the stomach should be empty. Often a second meal is introduced into the stomach that has not relieved itself of the first. The question of atony terminating in dilatation is discussed. He thinks that probably every degree results in a temporary and slight degree of dilatation. Retardation of digestion has a tendency to set up gastritis. The prognosis of chronic atony ofthe stomach depends more on the complications than the disease itself, and the tendency to gastroptosis is a marked feature. The discovery of a floating tenth rib may enable the physician in acute debilitating diseases to put the patient and friends on their guard and save trouble, especially if the disease is of a disabling nature. The disorder must be recognized as an affection of the nervous system demanding general systematic tonic treatment. Rest in bed is an important adjunct; care as to the diet, a nutritious and not too bulky one, and repeated analyses of the stomach contents to test the digestive capacity, are of importance. Cold bathing, massage, electricity, etc., exercises to strengthen the muscles of the trunk, play important parts in the treatment. The faradic current is to be preferred to the galvanic.

52. **Tuberculosis.**—Pottenger considers that tuberculosis is the most frequent of fatal diseases and gives tables showing the mortality in different countries. While we have been obliged to discard heredity as a common cause, he thinks we have gone too much to the other extreme and neglected the question of predisposition. Childhood is a period that needs our most earnest attention, and while we must recognize the possibilities of heredity, most of the trouble comes from environment. Our hope as to the future prophylaxis of tuberculosis largely depends on our attention to this point. Overcrowding is one of the most active causes in rendering the environment unhealthy, and the part played by acute infectious disease, especially in childhood, deserves earnest consideration. He also cautions against over-exercise and over-training as a possible cause.

54. **The Eye Complications of Measles.**—Suker reviews the various eye complications as they occur in measles, the most frequent of which are conjunctivitis and superficial inflammatory conditions. Fundus complications are rather infrequent as well as other deep-seated disorders. The possible complications are reviewed in detail. Among the more frequent ones are mentioned catarrhal and follicular and phlyctenular conjunctivitis and phlyctenular keratitis. In both phlyctenular complications the gastro-intestinal tract must be looked after as the possible source of an auto-intoxication. Marginal blepharitis is a common accompaniment of measles. Photophobia and asthenopia are also common. Of the deep complications optic neuritis and neuroretinitis are the most frequent of the fundus conditions. Total blindness coming on during an attack is rare. Muscular insufficiencies are sometimes noticed. In some cases strabismus has been credited to the disease. Disturbances of accommodation of the peripheral type are sometimes observed after apparent recovery in measles as in diphtheria. Non-inflammatory complications scarcely require treatment except rest for the eyes and tonics. The strabismus should be treated as if from any other cause and inflammatory disorders receive such treatment as would ordinarily be suitable. Suker thinks, however, that it would not be amiss to employ mild prophylactic treatment in the scrofulous or greatly debilitated cases so as to guard against phlyctenular complications and continue this for several weeks.

American Journal of the Medical Sciences, Philadelphia.

October.

57 *Hypertrophic Osteoarthropathy, with Report of Two Cases. Theodore C. Janeway.
58 An Hour-glass Stomach Observed in Situ. Thomas Dwight.
59 An Operation for the Repair of the Pelvic Floor. J. G. Mumford.
60 *Two Cases of Left Duodenal Hernia, in One of Which the Sac Contained the Entire Small Intestine, the Cecum and a Portion of the Colon, Which Was Strangulated. Leonard Freeman.
61 Rare Case of Appendicular Abscess Situated Between the Layers of the Mesentery of the Small Intestine. Joseph C. Bloodgood.
62 *The Results in Bloodless Reposition of Congenital Dislocation of the Hips, with a Report of Cases. Gwilym G. Davis.
63 Tortuosity of the Aorta. Joseph Sailer and G. E. Pfahler.
64 The Occurrence of the Bence-Jones Albumin in a Pleuritic Effusion. Isador H. Coriat.
65 Multiple Myeloma (Myelomatosis), with Bence-Jones Proteid in the Urine. F. Parkes Weber. With Report on the Chemical Pathology. R. Hutchison and J. J. R. Macleod.
66 A Convenient Modification of Tests for Hydrochloric Acid in Gastric Contents. Charles S. Fischer.
67 Two Cases of Relative Aortic Insufficiency. W. F. Hamilton and J. R. Byers.
68 The Community and Tuberculosis. Beverley Robinson.
69 *An Epidemic of Typhoid Fever Due to Impure Ice. R. H. Hutchings and A. W. Wheeler.
70 *The Transmission of Bovine Tuberculosis by Milk, with a Tabulation of 86 Cases. George M. Kober.
71 *Tabes in the Negro. D'Orsay Hecht.

57. **Hypertrophic Osteo-arthropathy.**—Two cases are reported by Janeway illustrating the symptomatology of the Marie and von Bamberger types of this condition. He discusses the theories and reviews cases he has found in the literature with regard to the etiology and pathology of the affection, and concludes that the incidence of osteo-arthropathy and tubercular pulmonary lesions is too marked to be made light of. Other associations are suppurative, gangrenous, etc., but some cases seem to have occurred without being apparently secondary to any known disease. He remarks that great individual differences in the reaction of the bones to irritants evidently exist in different persons. He asks for a careful recording of cases of osteo-arthropathy and allied conditions by the radiograph, as the problem of its true etiology requires a larger knowledge of bone pathology and of pathologic metabolism than we now possess.

60.—See abstract in THE JOURNAL, xl, p. 1669.

62. **Congenital Hip Dislocation.**—Four cases are reported by Davis involving seven hips. One was operated on and one was

lost sight of while under treatment. Of the other 5, 2 were anterior transpositions; 3 were apparently perfectly normal in every way, five, two and one-half years and six months after replacement by manipulation. He reviews the methods of open and forcible bloodless reposition and notes their respective advantages. The general conclusion is that perfect reposition is rarely attained in forcible reposition. As an absolute cure it hardly meets the full claims. If one is critical as to cures like Kirmisson, Hoffa, Kollicker, Schede, Codivilla and others, we can call 5 per cent. cured, but if one is more easily satisfied then the cures will amount to 50 per cent. It is probable that total failure under the age of 6 to 8 years is rare; that approximately one-half the cases are replaced in a more or less normal acetabulum and kept there; that a small proportion are apparently quite normal; that in most of the remainder the head is transposed forward or forward and upward and remains there. In many of these cases subsequent operation may perfect or improve the condition. Others seem to do well and still others have a tendency to slip backward to their former condition. It is absurd to speak of a cure within a short time after reposition. One should be cautious as to promising results of treatment.

69.—See editorial in THE JOURNAL of October 10, p. 913.

70. **Bovine Tuberculosis.**—From a careful study Kober concludes that tuberculosis may be transmitted to man in milk from tuberculous cows. The danger is real and can not be measured by the actual number of recorded cases, but should be judged, in part at least, by inoculation and feeding experiments and the accidental wound infection that has occurred. The degree of danger may also be estimated by the prevalence of bovine tuberculosis and of the forms other than phthisis pulmonalis in man, remembering that the infectious qualities are greater when the udder is the seat of lesions, and that Gebhardt's experiments show that tuberculous milk when diluted with milk of sound animals in the proportion of 1 to 40 loses its infective power. Experiments also indicate that while the bacilli of human tuberculosis possess different degrees of pathogenic power and are often of feeble virulence for cattle, Koch's claim that human and bovine tuberculosis are distinct, and that human tuberculosis can not be conveyed to cattle, appears to be disproved aand his failure to secure results may be attributed to the use of human bacilli of diminished virulence. Recent studies have strengthened Smith's claim that there are two types of tubercle bacilli, the human and bovine, with morphologic and biologic differences, but both of these may produce virulent cultures which, when inoculated into animals, produce the disease. It is desirable to have further study as to the frequency of primary intestinal and abdominal tuberculosis in all cases, whether the child died of tuberculosis or not, and bacteriologic examination should be directed to the existence of both of these types. As to whether the bovine type predominates, a careful chemical analysis of the milk of tuberculous animals should be made to determine the amount of phosphoric acid as compared with the quantity in normal milk, since de Schweinitz's researches seem to show that the excess noted by the older chemists is really the result of bacterial activity in the udder of the cow. The pathologist need not reverse his opinion as to the identity of human and bovine tuberculosis and the sanitarian has no reason to assume that the human subject is immune against infection or to cause him to relax his efforts in preventive measures.

71. **Tabes in the Negro.**—Hecht reports a carefully examined case and discusses the disease, especially in its occurrence in the black race. He concludes that long residence with the white man has made the American negro anthropologically, physiologically, and pathologically different from the original stock. This has been due to acclimatization, social environment and more than anything else to miscegenation. This latter and the advent of personal liberty are responsible for a new era of diseases. The newer diseases in the negro, of which tabes is an example, are becoming more commonly recognized, miscegenation being the potent factor in reducing the negro's resistance. Tabes probably occurs more commonly than has been supposed, and the failure to recognize it may be due to the abeyance or total absence of the ataxic symptoms in the amaurotic type. The Edinger-Marie observations as to optic atrophy satisfactorily explain that class of cases in which the tabes is arrested by blindness. Finally he concludes that Aryan admixture is essential to the production of tabes in the negro.

Brooklyn Medical Journal.

October.

72 *Notes on Urinary Casts. Z. Taylor Emery.
73 A Report of Present Methods of Administering General Anesthetics in the Brooklyn Hospitals, with Comments. A. F. Erdmann.
74 The National Formulary. W. N. Belcher.
75 The Hypothesis of Cohnheim Concerning Carcinoma. Algernon T. Bristow.

72. **Urinary Casts.**—The clinical significance of hyaline casts is open to many qualifications, according to Emery. They may be dependent on weakened or disturbed circulation or subject to altered conditions of the blood and febrile conditions. If the casts are small or medium sized and not accompanied by albumin and not numerous, or occurring in a man over 45 years old, they need not be considered necessarily of special significance, but if they are large or medium sized in large numbers, further examination and careful inquiry are indicated. The appearance of hyalin casts containing granular matter does not always indicate an active destructive process within the kidney, nor do small hyaline casts in young persons after exhausting or long-continued severe exercise. Large hyaline casts in the urine of middle-aged persons, if long continued, may indicate beginning intestinal nephritis. If there is a continued trace of albumin, suspicion should be excited to the point of certainty, especially if the daily output of urea is decreased. The occurrence of epithelial, blood or granular casts in the urine is of sufficient gravity to call for systematically conducted chemical and microscopic examination, though such may occur from localized infarcts which heal up. In patients ill from tonsillitis, pneumonia, and typhoid, albumin and casts may appear and no detrimental effects follow. Bacterial casts are occasionally seen and are of importance. Waxy casts are often of grave import. He suggests in cases in which it is impossible to obtain a twenty-four-hour specimen which can be identified as such to make a series of examinations at intervals during several weeks.

American Gynecology, Baltimore.

September.

76 *Concerning Tuberculosis of the Female Sexual Organs and the Peritoneum. J. Veit.
77 *Intestinal Anastomosis by the Elastic Ligature. Theodore A. McGraw.
78 A Sketch of the History of Obstetrics in the United States up to 1880. (To be continued.) J. Whitridge Williams.
79 *Instrumental Dilatation of the Cervix in the Last Months of Pregnancy. H. S. Lott.
80 *The Effect of Anesthesia on the Body Temperature. W. H. Morley.

76. **Tuberculosis of the Genital Organs and Peritoneum.**—Veit finds that this is more frequent than was formerly supposed, and while it may be primary, the secondary form is the most common. It is usually descending, more rarely ascending, but the infection may also follow the blood vessels or occur after accidental injury of the lymph glands. The diagnosis is based in particular on the discovery of the bacillus; in some cases, however, the certain occurrence of tubercles is sufficient. Recovery may be spontaneous. In primary isolated genital tuberculosis operative treatment, however, is still the best. In secondary tuberculosis or cases not isolated, the general therapeutics must be first considered, especially constitutional treatment. Good and permanent results are sometimes obtained from operation and, exceptionally, this may be considered. The best local palliative is iodoform. He says that tuberculosis of the peritoneum is always secondary. There are two forms, the ascitic and the adhesive. It may be secondary or primary. Peritonitis, with extensive nodule formation, which can not be explained by ovarian tumors or carcinoma, must generally be considered as tubercular. It may even heal spontaneously, though not very frequently, and is cured by laparotomy, even though some failures, due mostly to too far advanced tuberculosis in other organs, do occur. A generally accepted explanation of this healing process does not exist;

the influence of the serum (whether normal or antitoxin) is very probable. Therapeutically speaking, therefore, recent cases should be operated on when difficulties arise as the result of disease. A repetition of the operation may, if it is performed very early, become necessary. Chronic cases should be observed, and if spontaneous recovery does not soon occur, laparotomy should be performed. A simple laparotomy along the linea alba with evacuation of the fluid and closure of the abdominal cavity is usually sufficient. The abdominal radical operation should be performed only if at the same time we find a completely isolated genital tuberculosis. Veit's article was one of the principal addresses at the last international congress of gynecology.

77.—This article appeared elsewhere. See THE JOURNAL of October 17, ¶7, p. 985.

79. **Instrumental Dilatation of the Cervix.**—Lott redescribes a metallic dilator invented by him, a description of which was published in the *North Carolina Medical Journal* in 1892. Bossi's dilator was first described in an Italian journal in 1891, and Lott's invention was entirely without knowledge of the Italian's work. It was employed successfully in this country ten years before the Bossi invention was here introduced.

80. **The Effects of Anesthetics on the Temperature.**—Morley gives his observations on the effect of anesthetics on temperature. He concludes that ether anesthesia lowers the body temperature; that this is due to the increased heat output through the dilated skin vessels and to lessened heat production from diminished muscular movement. Hence the patient should be well protected with lint and bandages and the operating room should be warm. Many of the so-called postoperative pneumonias are due to the chilling of the patient.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

September.

81 *The Management of Fever in General. Augustus A. Eshner.
82 *The Contagiousness of Pneumonia. Robert N. Willson.
83 A Report of Three Cases of Lupus of the Mouth. W. G. B. Harland.
84 Ligation of the Subclavian Artery for Aneurism of the Second and Third Portions. Charles F. Nassau.
85 Three Cases of Subcutaneous Injection of Paraffin for the Correction of Nasal Deformities. A. B. Kirkpatrick.

81.—This article appeared in THE JOURNAL, July 11, 1903.

82. **Pneumonia.**—Three cases in the same house in previously healthy persons are reported by Willson. The possibility of their being cases of independent infection seems dubious.

Northwest Medicine, Seattle, Wash.

September.

86 Presidential Address, Washington State Medical Association. Charles McCutcheon.
87 *The Hygiene and Dietetic Treatment of Chronic Nephritis. Victor C. Vaughan.
88 *Renal Decapsulation as a Cure for Chronic Bright's Disease. Franz H. Coe.
89 The Treatment of Vascular Tumors by the Injection of Boiling Water. N. G. Blalock.
90 Treatment of Pelvic Disease in the Female Insane. Ernest A. Hall.
91 Fatal Poisoning by Oil of Wintergreen. J. B. McNethney.

87. **Chronic Nephritis.**—Vaughan reviews the dietetic instructions of various authorities. He criticises the exclusive milk diet. The diet which Vaughan has found most serviceable in chronic nephritis is, with the exception of cream and butter, wholly vegetable. He forbids meat in every form, eggs and milk. What he seeks is to profoundly alter the proteids in the circulating blood, and believes he has the best reasons for the selection of the vegetable diet. The urine for twenty-four hours should be collected and its albumin carefully determined, both absolute and percentage, also the amount of urea and total nitrogen should be ascertained. Then the patient should be placed on a diet for three days or more and corresponding analyses made. The diet permits cream, which should be separated as quickly as possible from the milk, and should not contain more than 1 per cent. of proteid. The amount of cream per day is limited to 500 grams, or one pint. Among the cereals he prefers cornmeal mush, which may be allowed *ad libitum*, or oatmeal and cracked wheat may be substituted. Sugar is allowed freely for the mush and zwieback and butter and potatoes complete the substantials of the ration, although he permits the legumins, peas and beans either fresh or canned, green vegetables, fruits and melons. Patients living on such a diet have no difficulty in becoming accustomed to it and lose their desire for meat and eggs. He tabulates the number of calories in this diet, showing that it is sufficient. In order to scientifically determine the value of such a diet in chronic nephritis it will be necessary to test the relative toxicity of the blood of the patients on animals, especially with reference to its action on the kidneys under different diets. This offers a promising field of research. He considers the diet as important in nephritis as in diabetes. The digestive organs need to be carefully watched. Lavage of the stomach is frequently indicated and an analysis of the gastric juice should be made in all cases. The eliminative organs, bowels, skin, etc., should be kept in normal condition, but not too active. Flannel clothing, varying according to the seasons, should be used. Blood counts and hemoglobin estimates should not be neglected.

88. **Renal Decapsulation and Bright's Disease.**—Coe relates his own case and his observation of others treated by Dr. Edebohls and two cases from his own operative experience. He has become an advocate of the method from these observations. He suggests to those who will try the surgical procedure to keep the patient in bed for one week preceding the operation, examine the mixed twenty-four-hour urine for reaction, quantity, albumin by the Esbach or better still by the centrifuge method with potassium ferricyanid; supplemented by repeated estimation of urea for total average quantity. Some value can be attached to the lessened quantity of chlorids as demonstrating renal insufficiency. He says do not trust the settling glass for examination for casts; use the centrifuge. Do not think there is no nephritis because there is no albumin; use the contact test. Conspicuous edema is not essential. Be sure of the condition of the heart and blood vessels. Do not belittle the difficulties of operation, which may be simple or complicated according to the thickness of the walls, the high position of the kidneys, the shortness of the pedicle, possible injury to the nerves or puncture of the pelvis. He believes in the use of the method in eclampsia; in the hands of a rapid operator he would suggest it as the operation of choice. The danger of anesthesia he says may be negative. He is using at present in all his major operations the Bennett inhaler and combined nitrous oxid and ether anesthesia.

Journal of the Michigan State Medical Society, Detroit.

October.

92 Skiascopy of the Heart. A. W. Crane.
93 *A Procedure for the Prevention of Infection, After Cataract Extraction. Walter R. Parker.
94 The Value of Conservative Operations on the Uterus and Its Appendages. W. P. Manton.
95 The Removal of the Appendix During Abdominal Section. J. H. Carstens.
96 Rectal Examination; Its Importance and Value in General Practice. Louis J. Hirschman.
97 Disorders from Eye Strain. Ovidus A. Griffin.

93. **Cataract Extraction.**—Parker describes a case in which he operated successfully, protecting the cornea by conjunctival flaps, according to the method described by Ellett (abstracted in THE JOURNAL of vol. xl, ¶58, p. 1400), everting the flaps over the cornea in order to prevent infection. He thinks it is a valuable method not only for protection against infection but also against accidents in the nervous and insane.

International Journal of Surgery, New York.

September.

98 *The Differential Diagnosis of Acute and Chronic Brain Abscess by Means of the Encephaloscope. Frederick Whiting.
99 Sacculated Bladder. Joseph B. Bissell.
100 Cystotomy in Chronic Cystitis. F. B. Dorsey.
101 The Surgical Assistant; Abdominal Operations. (Continued.) Walter M. Brickner.
102 Rubber in Windowing Plaster Casts in Compound Fractures. Hugh Crouse.
103 The Surgical Treatment of Nephritis: A Physician's View. William F. Waugh.

98. **The Encephaloscope.**—The treatment of brain abscess is a difficult subject and very few if any have duplicated the successful results of MacEwen. It is dangerous to introduce

gauze into the abscess, the walls of which are especially delicate. Whiting has devised an encephaloscope, consisting of a hollow metal tube with flaring orifice and slightly contracted extremity, very similar to an enlarged type of ear speculum. Into this tube an obturator fits in such a way as to accurately occlude the extremity and preclude the possibility of laceration of the soft brain substance which must be displaced or thrust aside when the instrument is introduced into the abscess cavity. This obturator can be quickly withdrawn or speedily replaced should circumstances require. He describes the appearances in acute and chronic brain abscess. In the former there is simply a space with pinkish or reddish walls, with here and there thin shreds of plastic lymph, but nowhere any appearance of an investing layer. Chronic abscess, on the other hand, has a marked yellowish white opaque capsule distorted and irregular in shape and dense in structure. When the examiner looks through the encephaloscope, the interior of which is illuminated by a head mirror, he notices that the collapsing walls come in contact with one another, except where there is a slight depression which, of course, corresponds to the situation and direction of the drainage path. If this lies in the center of the field of observation the obturator can be replaced into the tube and the instrument carried one-half an inch deeper into the brain and straight forward. If it does not correspond with the center of the field, but is situated below the center, to the right, left or above, it is inclined in the direction corresponding to the depression and is carried by gradual stages and repeated observation until the bottom of the pus sac is reached. For acute brain abscess he would adopt an entirely different plan from that with chronic abscess. He would simply introduce to the bottom of the cavity a single wick of iodoform gauze the size of a crow quill, the dressing to be changed at intervals of forty-eight hours until the surface exposed to view is seen to be covered by pinkish granulations. Then the length of the drain should be reduced and the depths of the abscess permitted to heal, preliminary to complete closure of the canal from the dura inward. In chronic brain abscess where there is a dense, firmly-resisting, fibrinoplastic membrane which must slough away or undergo absorption, he would mop the cavity clean with sterile cotton and introduce sufficient iodoform gauze to distend or balloon it, which must be kept up until all fetor disappears and the former lymph-coated suppurating surface is covered with small, red granulations. With the appearance of these granulations favorable and speedy healing may be anticipated. He thinks curetting of a chronic brain abscess cavity might be done with great care, and when large tufts of necrotic granulations are seen they might be scraped away so that they will not conceal a path of infection extending into the adjoining brain tissue. His experience with brain abscess comprises 8 cases, 3 treated without the encephaloscope with gauze packing with or without irrigation. There was 1 recovery. With the encephaloscope he has had 5 cases and treated them all with gauze packing without irrigation with 1 death. This change of mortality from 66 per cent. to 20 per cent. is, he thinks, decidedly in favor of the instrument so far as his experience goes.

Northwestern Lancet, Minneapolis.

October 1.

104 The Relation of the American University to the Medical and Other Professional Schools. John M. Dodson.
105 Nihilism in Therapeutics in Its Relation to Pharmacy. Richard O. Beard.

Medical Age, Detroit.

September 25.

106 Cataract in the Young. William Cheatham.
107 Some Interesting Surgical Cases. Ap Morgan Vance.
108 Exostosis of the Orbit, with Report of a Case. D. C. Bowen.

St. Paul Medical Journal.

October.

109 Materia Medica, Pharmacy and Therapeutics of the Cree Indians of the Hudson Bay Territory. R. Strath.
110 Inflammation of the Gall Bladder and Biliary Passages. Archibald MacLaren.
111 The Treatment of Recent Hernias. J. Clark Stewart.
112 Unusual Forms of Hernia. V. Pieth.
113 Medical Studies in Europe. John Sutherland.
114 Needed Reform in Modern Therapeutics. W. S. Fullerton.
115 Gastrophilus Epilepsalis Larvæ in the Skin of an Infant. Burnside Foster.
116 Puerperal Sepsis. A. McEachran.
117 The Danger of Error in Diagnosis Between Typhoid and True Appendicitis. R. C. Dugan.

Bulletin of the Kentucky State Medical Association, Louisville.

September.

118 Field Notes on Smallpox and Vaccination. R. E. Garnett.
119 Fence-corner Surgery. I. A. Shirley.

Louisville Monthly Journal of Medicine and Surgery.

October.

120 Salpingitis. James Vance.
121 Chronic Gonorrheal Prostatitis. P. C. Layne.
122 The Chemistry of Life. Jacob Glahn.
123 A Rare Case of Sexual Perversion. C. C. Godshaw.
124 A Plea for More Accurate Diagnosis in Diseases of the Upper Abdomen. Louis Frank.

Medical Times and Register, Philadelphia.

August.

125 Practical Experiments in the Treatment of Anemic Conditions. Fritz Euler-Rolle.
126 Impaired Digestion of Infants, Particularly Bottle-fed Babies. F. H. Munroe.

American Medical Compend, Toledo.

October.

127 The Hematology of Syphilis. R. C. Longfellow.
128 Report of a Case of Mastoiditis. Emil Amberg.
129 General Topography of the Ureter. Byron Robinson.

Medical Herald, St. Joseph, Mo.

October.

130 Typhoid Spine. J. W. Cannon.
131 Intestinal Perforation in Typhoid Fever. Wilson O. Bridges.
132 Some Cases of "Cured" Appendicitis. H. H. Everett.

Medical Review of Reviews, New York.

September 25.

133 Syphilis Considered in Its Ethical Relations. S. Seabury Jones.

Medical Sentinel, Portland, Ore.

September.

134 A Case of Enterolith. Drs. Ferguson and Reuter.
135 Scarlet Fever; Etiology and Morbid Anatomy. G. W. Gregg.
136 The President's Address, Eastern Oregon District Medical Society. Nicholas Molitor.
137 *Appendicitis as an Incident in Development. Woods Hutchinson.

137.—This article has appeared elsewhere. See THE JOURNAL of August 15, ¶16, p. 468.

Clinical Review, Chicago.

October.

138 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
139 Eczema and Pruritus. B. Pirosh.

Buffalo Medical Journal.

October.

140 Fibroid Tumors of the Uterus. Herman E. Hayd.
141 An Easy Method of Percentage Infant Feeding. C. W. M. Brown.
142 Some Diseases of the Respiratory Tract from the Viewpoint of the Pension Examiner. William W. Potter.
143 A Critical Clinical Study of Hedonal. A. Toepfer.
144 Myxosarcoma of Right Ovary; Operation; Recovery. L. G. Hanley.

Mobile Medical and Surgical Journal.

September.

145 Report of a Case of Uncinariasis. J. B. Guthrie.
146 Mercury; with Special Reference to Syphilis. E. F. Moody.
147 What Precautions Should be Observed in the Selection of Anesthetics, and How to Administer Them. Edwin L. Marechal.

Kansas City Medical Record.

September.

148 Lachrymal Drainage. Hugh Miller.

New Orleans Medical and Surgical Journal.

October.

149 Some Points in the Development of Dermatobia Hominis. Henry B. Ward.
150 Foreign Bodies in the Ear. B. A. Colomb.

Texas Medical Journal, Austin.

September.

151 Malarial Hemoglobinuria. M. M. Pool.
152 The Therapeutic Value of Animal Extracts. A. S. Epperson.
153 The American Medical Association Plan of Reorganization. James H. Bell.
154 A Case of Snakebite Treated with Adrenalin Chlorid. J. D. Hooker.

Journal of Advanced Therapeutics, New York.

October.

155 The Current: Its Effects and Physiologic Action. Margaret A. Cleaves.

156 The Roentgen Ray as an Aid in Diagnosis. Herman Grad.
157 The Treatment of Chronic Diseases by Physical Therapeutics, Through the Sympathetic Nervous System. (Continued.) Albert C. Geyser.
158 The Vis Medicatrix Naturæ. Maurice F. Pilgrim.

Southern Practitioner, Nashville, Tenn.

October.

159 The Treatment of Pelvic Inflammation. John A. Gaines.
160 Cases in Practice: Dystocia, with Lacerated Perineum; Hemorrhoids, and Abortion. T. J. Happel.

Medical Mirror, St. Louis.

September.

161 The Treatment of Burns. Edward Wallace Lee.
162 Formaldehyd. J. W. Wainwright.
163 Consolation. William C. Cooper.

Toledo Medical and Surgical Reporter.

October.

164 The Indispensable Importance of the X-Ray. John F. Wright.
165 The Hematology of Syphilis. R. C. Longfellow.
166 History of a Case of Quadruplets. Christian Storz.
167 Interstitial Nephritis. William F. Waugh.
168 The Relation of Physical Defects to Mental Development. George Stockton.

Texas Medical News, Austin.

September.

169 The Dangers of Tuberculosis. D. Monroe.
170 Tonsilitis. A. Nowlin.
171 Some Work on the Head. R. E. B. Bledsoe.
172 Maternal Impressions; Report of a Case. S. S. Watson.
173 *The American Medical Association Plan of Reorganization. James H. Bell.

173.—See also title 153 above.

Columbus Medical Journal.

September.

174 Water-Borne Diseases. John H. J. Upham.
175 Chemical Analyses of the Present Public Water Supply of the City of Columbus, Ohio. Elmer G. Horton.
176 Bacteriologic Analysis of Present Water Supply. H. C. Fraker.
177 What Is Our Present Water Supply? Supt. O'Shaughnessy.
178 Theory and Efficiency of Filtration. R. Winthrop Pratt.
179 What Should the Physicians Advise as to the Use of Hydrant Water? J. W Clemmer.
180 The Development of Obstetric Surgery. (Continued.) James U. Barnhill.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 3.

1 Reverence and Hopefulness in Medicine. Dyce Duckworth.
2 The Relationship of the Military Medical Service to the Civil Profession. V. Warren Low.
3 The Relation of Dental Hygiene to the General Hospital. William Hern.
4 The Trend of Opinion in Obstetrics. William Stephenson.
5 *Discussion on the Management of Pregnancy Complicated with Uterine Fibroids. Amand Routh and others.
6 A Case of Persistence of the Urogenital Sinus, with Especial Reference to the Later Theories of the Mode of Development of the Female Genital Tract. C. E. Purslow.
7 *Some Remarks on the Maternal Circulation in Pregnancy. H. Oliphant Nicholson.
8 Clinical Study of Internal Hemorrhage in Association with Ectopic Pregnancy. James Oliver.
9 Two Successful Cases of Cesarean Section for Contracted Pelvis in Dwarfs. Ewen J. Maclean.
10 A Case of Hairpin in the Uterus, Discovered by the X-Rays. Arthur H. N. Lewers.
11 *A Discussion on Alcohol in Relation to Mental Disorders. Theo. B. Hyslop and others.
12 *Human Evolution, with Special Reference to Alcohol. G. Archdall Reid and others.
13 *Preliminary Note on the Action of the Blood Serum from Cases of Mental Diseases on *B. Coli Communis*. A. V. Johnson and E. Goodall.
14 *The Nature of Fragilitas Ossium in the Insane. W. Maule Smith.
15 *Some Slighter Forms of Mental Defect in Children and Their Treatment. G. E. Shuttleworth.
16 The Classification of Insanity. Charles Mercier.
17 A Discussion on the Cure and Treatment of Incipient Insanity. David Yellowlees and others.
18 Psycho-therapeutics. A. T. Schofield.

5.—This was abstracted in THE JOURNAL, September 5, p. 625.

7. **Maternal Circulation in Pregnancy.**—Certain normal changes occur in the blood during pregnancy; it is increased and more dilute. Nicholson, however, notes certain abnormal conditions. With the hypertrophy of the heart that occurs, especially of the right side, showing itself by pulsation in the jugular vein, there is still likely to be some overstrain; If the normal heart is dilated in pregnancy the arterial pulsation does not always show it, and this form may often be found in a woman who exhibits large pulsations in her jugular. The type of the radial pulse is quite consistent with the left ventricular hypertrophy, and yet other evidence points to dilatation of the right heart. He thinks the explanation is not a simple one. There are possibly toxic influences of some sort at work. The peripheral resistance is often increased and the protective action of the cardiac and vascular reflexes are interfered with. He thinks it is not improbable that some powerful and universal vasoconstrictor is generated during pregnancy; something which produces similar effects to those of suprarenal secretion and at other times the thyroid action seems to be increased. One or the other of thyroid or suprarenal secretions seem at times to gain the upper hand and patients that have a decided increase of blood pressure without edema, or only a firm or solid one, have no tendency to postpartum hemorrhage, but are likely to develop eclampsia and the arterioles must be relaxed. Thyroid extract, he thinks, is the ideal vasodilator for this purpose, and for an emergency a full grain of morphin hypodermically is the proper treatment.

11. **Alcohol.**—Hyslop considers that alcohol always has an evil action in healthy individuals, though it may be used wisely in times of need as a stimulant, nutrient and antipyretic. Stimulating a worn-out machine, however, by improper fuel is not productive of good results. He makes a comparison with financial conditions and claims that alcohol is only useful as a loan to avert physical bankruptcy. It may help to tide over a bodily crisis until the organism can repay the loan with its accumulated interest. The action of alcohol on the nervous element is noted, as also the changes in alcoholic insanity.

12. **Alcohol and Human Evolution.**—Reid reiterates his opinion as to the effect of alcohol in weeding out the unfit and thus acting as a decided factor in human evolution. In the discussion that followed Mercier, Yellowlees, Kelynack, Edridge-Green, Schofield, Ridge, Ford Robertson, Lloyd Andriezen and other prominent alienists and neurologists handled Reid's theory pretty severely.

13. **Blood Serum in Insanity.**—Johnson and Goodall have experimented to ascertain the effect of the action of blood serum in the different forms of insanity on cultures from mixed strains of *B. coli communis* in order to find whether by the determination of agglutinins direct evidence can be adduced of the morbid influence of the colon bacillus in such cases or the indirect evidence of similar action on the heart of other organisms related to the colon bacillus. Twenty-five cases of insanity of various kinds were tested; good agglutination was shown in 4 out of 5 cases of acute melancholia; 1 out of 3 cases of general paralysis; 1 out of 2 cases of delusional insanity, and 1 case of climacteric insanity. Partial agglutination appeared in 6 out of 11 cases of acute mania; 1 out of 2 cases of delusional insanity; 1 case of alcoholic insanity. No agglutination occurred in 5 cases of mania, 1 of melancholia, 1 of puerperal insanity, 2 of general paralysis and 1 case of recurrent mania. Agglutination, therefore, was present in 60 per cent. of all cases; in 28 per cent. good, in 30 per cent. partial. With control experiments, which were made each time, only one showed a slight partial agglutination. The authors have also followed the method of Bruce in counting the number of leucocytes in various cases of insanity at regular intervals over a definite period of time, and they find the leucocytes were in much greater numbers during the acute stages, falling again in remissions and cases of recovery. They were mostly of the polymorphonuclear type. The highest number occurred in acute mania.

14. **Fragilitas Ossium in the Insane.**—Smith has studied the conditions of patients as regards the breaking strain of their ribs in 200 cases from the postmortem records in the Wakefield Asylum. The forms of insanity in which the fragility was most marked were chiefly paresis and dementia; only 1 case of melancholia, and none of mania, under forty-four,

showed this symptom. In epilepsy it seems to be less frequent than in some other forms of mental disorder. The results of the data show that:

1. In percentage cases those of dementia are the highest and those of epilepsy the lowest, while cases suffering from general paralysis do not present the change so markedly as might be supposed.

1.	Dementia	77.7 per cent.
2.	Chronic melancholia	76.4 per cent.
3.	Chronic mania	66.6 per cent.
4.	General paralysis	65.7 per cent.
5.	Idiocy and imbecility	29.6 per cent.
6.	Epilepsy	22.2 per cent.

2. The disease is much more frequent in the female sex, in whom it occurs at an earlier age than in the opposite sex. 3. It is comparatively rare before the ages of 45 or 50, except in general paralysis, where it is oftener met with at a younger period, especially in women. 4. It is essentially a morbid change which occurs in late middle life and old age. 5. It is not a marked pathologic condition in the male sex, who suffer from general paralysis. 6. It is seldom present in epilepsy.

The figures also show that in cases of dementia fragility of the bone is more marked than in other forms of mental disease, occurring in nearly one-half the cases. Smith discusses the histology, pointing out the changes that occur and showing that there are well-marked evidences of gross lesions in the posterior spinal ganglia, sensory roots and the peripheral nerves, and that probably the lesions in the mixed nerves are due to degeneration of the sensory fibers. These nervous conditions remove the trophic influences of bone formation. Minerals are carried away faster than they are deposited and the haversian spaces first suffer, being nearest the blood stream. The change beginning in the normal loose cancellous tissue gradually involves the more superficial dense bone until the whole thickness becomes porous and fracture is likely to occur.

15. **Mental Defect in Children.**—The forms of mental defect noticed by Shuttleworth are sexual erethism in children of the neurotic type, obsessions which are sometimes marked, hysteria, which is not recognized by the English authorities as much as it should be, phobias, etc. These observations were made while examiner of children for admission to special instruction schools of the London School Board and were extensive. He does not touch on the recognized insanities of children, but just alludes to the symptomatic and transient mental defects found in cases of chorea, probably of toxic origin. He remarks that in some cases not obviously cretinoid, benefit is obtained by the administration of thyroid, the more active metabolism producing increased and more regular brain action.

The Lancet, London.

October 3.

19 Reverence and Hopefulness in Medicine. Dyce Duckworth.
20 Address, London (Royal Free Hospital) School of Medicine for Women. Elizabeth M. Pace.
21 Address, School of Pharmacy of the Pharmaceutical Society. Joseph W. Swan.
22 *The Surgical Treatment of Intestinal Perforation in Typhoid Fever. Donald Armour.
23 Notes on Five Cases of Abdominal Section for Emergencies During Pregnancy. Albert E. Morison.
24 *The Circulation of Tissue Fluid in Man. George Oliver.
25 Infant Feeding. G. F. McCleary.
26 *The Immunization of Animals to the Bacillus Typhosus. W. Vernon Shaw.
27 A Case of Pyopericardium Following Puerperal Sepsis; Paracentesis; Excision of Rib and Drainage. Arthur Hall.
28 Five Illustrative Cases of Congenital Heart Disease. John M. Cowan and Alexander R. Ferguson.

22. **Typhoid Perforation.**—Armour gives the history of the treatment of typhoid perforation and the statistics of its incidence and mortality, and calls attention to the fact that there is no pathognomonic sign, though Cushing has recognized a sort of preperforative stage, and there is apt to be a condition of gradual aggravation before complete severe peritoneal infection is attained. A rapid drop of temperature is not infrequent, and Dieulafoy regards it as almost an invariable sign. Rigor may be an early symptom. The value of leucocytosis is not yet positive, and to obtain its value a systematic examination of the blood from the beginning should be made in every case of typhoid fever. The diagnosis is often between typhoid fever and appendicitis. Perforative appendicitis is not so very frequent, according to Osler, though Cushing thinks it is commoner than generally supposed. The percentage of recoveries has greatly increased since the first operations some twelve years ago. The only treatment is surgical. The operation for typhoid perforation does not differ from that undertaken for intraperitoneal perforation from other causes.

24. **The Circulation of the Tissue Fluid in Man.**—Oliver experimented by taking a sample from the first easily flowing drop derived from near the root of the nail, the object being to obtain the actual proportion of lymph present in the tissues around the puncture. From his experiments he concludes that the amount of tissue lymph varies at different times in the day. Ingestion of food produces a rapid flow of lymph into the tissue spaces, the digestive curve always following the same general type with rapid rise, short acme and a gradual subsidence. There is a corresponding rise and fall in the percentage of corpuscles, hemoglobin and specific gravity of the blood. The facts suggest that when the body is in a state of rest the fluid exuded into the tissue is mainly absorbed directly into the blood and a to-and-fro transference from the capillaries to the tissue spaces, interposed as it is between the capillaries and lymph vessels, is called by Oliver the intermediary circulation. In normal individuals at certain times of the day there was apparent withdrawal of the tissue fluid. Oliver thinks that the inquiry has in part confirmed the opinion that goutiness primarily depends on the retention of some waste products, whether uric acid or something else. How gout originates may be a question, but how it is maintained when established is not doubtful in his opinion. It is essentially dependent on a derangement of the intermediary circulation, and the tissues themselves are the area in which gouty disturbances develop and manifest themselves. The residue may accumulate and be deposited in the tissues because their removal is prevented either by excessive capillary blood pressure or by a diminishing of that pressure reducing the fluid exchange between the blood and the tissues. Hence the two leading types of gout that are recognized. The inquiry is still in progress.

26. **Immunization of Animals to the Typhoid Bacillus.**—The following are the conclusions reached by Shaw:

1. The best method of obtaining a typhoid toxin is by the digestion of the bacilli. 2. This product is toxic. 3. This product can excite a reaction in susceptible animals, during which they develop immunity to the injection of living typhoid bacilli, and the serum from such an animal can protect another animal against typhoid infection. 4. The injection, intravenously, of living typhoid bacilli may result in the production of a "negative phase" of resistance.

Australasian Medical Gazette, Sydney.

August 20.

29 Mechanism of the Paroxysmal Neuroses. Francis Hare.
30 Diabetes. C. Reissmann.
31 Ferraresi's Tenoplasty for Fracture of Patella. T. Fiaschi.
32 Columnar-celled Carcinoma of Cecum; Excision; Closure of Both Ends of Intestine; Lateral Anastomosis of Ileum with Transverse Colon; Recovery. R. A. Stirling.
33 Fleas and Plague Convection. J. S. C. Elkington.
34 Macroglossia. M. R. Jay.
35 Hemorrhage in the Newly-born. E. Champion.
36 Two Acute Cases of Tetanus Treated with Antitoxin; Recovery. R. R. S. Mackinnon.

Presse Medicale, Paris.

37 (No. 76.) Hématome traumatique de la dure-mère. Raymond.
38 (No. 77.) *Les streptococcies intestinales. Historique. Symptomes. Lésions. P. Nobécourt.
39 Obsessions et impulsions. S. Soukhanoff.
40 Traitement de la cystite hemorroïdale. P. A. Mésnard.
41 (No. 78.) Hypersécretion lymphatique. Retentions et edèmes. M. Loeper.

38. **Streptococcus Infection of Intestines.**—Nobécourt analyzes the various cases of streptococcus infection of the intestines that have been published, from Beck's case in 1892 to Durante's recent communications, showing the large share of the streptococcus in infantile enteritis. The intestinal affection has been described variously as resembling cholera nostras, dysentery and typhoid, and Booker found streptococci in 27 out of 92 cases of gastro-enteritis characterized by high fever and by the presence of numerous mononuclear and polynuclear leucocytes in the diarrheic stools, with red corpuscles and mucus. Streptococcus enteritis is particularly severe in adults. Only 5 recovered out of 12 cases reported by Tavel and 4 of these had presented the typhoid form. The others were more of the type of septic pyemia or fulminating cholera nostras. In children the streptococcus is liable to induce a dyspeptic, catarrhal

type, infantile cholera, follicular enteritis, acute enterocolitis with severe symptoms (Hutinel's "dry cholera"), or a chronic gastro-enteritis. Symptoms on the part of the stomach are frequent and severe, as also buccopharyngeal lesions. Secondary bronchopulmonary affections are more frequent in the hospital than in general practice. Nephritis and cystitis may also occur, with erythemata, and meningeal symptoms are not infrequent. Other complications that have been observed are peritonitis, pleurisy, pericarditis, icterus and otitis. None of these manifestations are pathognomonic of the underlying streptococcus intestinal affection, and the lesions induced are not specific, although the streptococci seem to have a special predilection for the follicular apparatus.

Semaine Medicale, Paris.

42 (No. 38.) *Etude expérimentale de l'action des solutions de chlorure de sodium sur l'épithelium rénal. J. Castaigne and F. Rathery.
43 La legislation antialcoolique de l'état d'Iowa. F. Munch.
44 (No. 39.) *De l'origine des néoplasmes malins. F. de Quervain.

42. **Experimental Study of Action of Sodium Chlorid on Kidney Epithelium.**—Castaigne and Rathery have been experimenting *in vitro* with saline solutions of varying density and found that all solutions above and below a specific gravity of .78 C. were distinctly injurious to rabbit kidney tissue, actually dissolving it. The salt solution is not *per se* nephrolytic, but the osmosis must be identical with that prevailing in the kidney tissue. They then studied the effect on the rabbit organism of deprivation of salt and supersaturation. They have become convinced that the salt solution which filters through the glomeruli has a constant osmotic tension in physiologic conditions, similar to what has been established in regard to the blood and cerebrospinal fluid. When the kidney is sound, as more or less salt is ingested and eliminated through the kidney, more or less water comes with the salt, thus maintaining the constant specific gravity unless the intake is unusually large. The glomeruli are protecting filters which spare the renal tissue from the nephrolytic effect of a too concentrated or too diluted saline solution. The kidney tissue is protected against the effect of an injurious saline solution by the special arrangement of the protoplasm which these writers call the "brush border"—*bordure en brosse.* This border disappears in epithelial nephritis and the loss of this protecting device renders the kidney more sensitive to the variations in the osmotic tension of the fluid issuing from the glomeruli. Briefly transient variations pass without causing disturbance on account of this protecting device, but when the kidney tissue is diseased, variations in the osmotic tension entail severe injury. Lesions were found in the kidneys in every cadaver in which polyuria was known to have existed during life, and lesions were found in the rabbits every time polyuria had been experimentally induced for a certain length of time. Albuminuria developed invariably in the animals deprived of salt, and it also appeared in a subject placed on a salt-free diet who had previously shown no evidence of renal derangement. On the other hand, deprivation of salt had an unmistakably favorable action on a number of patients with pronounced nephritis, considerable edema and albuminuria. Salt administered to rabbits in small amounts did not induce albuminuria, but when continued beyond a certain limit, or larger amounts were given, albumin appeared in the urine in every instance, whether the salt was injected or ingested per os. The effects were more marked as the kidneys of the animals were more inclined to be diseased. Injections of salt solution so small as to cause no appreciable effects in healthy animals produced serious and sometimes fatal manifestations on the part of the kidneys in animals already affected with kidney lesions. Clinical experience to date has shown that in subjects with interstitial nephritis without albuminuria or a specially fragile epithelium, the alimentary salt test causes merely transient albuminuria. In subjects with Bright's disease and edema, the alimentary salt test continued for several days increases the albuminuria and the edema. Fatal uremic manifestations have been observed after infusion of large amounts of artificial serum in patients with slow, atrophying nephritis.

44. **Origin of Malignant Neoplasms.**—De Quervain reviews the wealth of literature published on this subject of late, and remarks that the assumption of a parasitic origin for cancer far from settling all difficulties raises a host of new problems. He thinks that the various explanations of the origin of these neoplasms offered to date are none of them sufficient, and that further research along all lines is required. He suggests that the prospects are brighter for this research in the line of the transmission of cancer from animal to animal. The first question to be solved is whether the cancer is transmissible by the cancer juice alone, strictly excluding all the cancer cells. As we learn the true nature of the transmitting virus, the study of the subject will be facilitated. He adds that in any event further researches must be conducted with the application of critical judgment which seems to have been lacking in much of the experimental work that has been done, which has resulted in parasite discoveries as numerous as the parasites have proved ephemeral.

Archiv f. Gynäkologie, Berlin.

Last indexed page 885.

45 (LXIX, No. 2.) *Syphilitic Changes in Umbilical Cord. J. Bondi (Vienna).—Die syph. Veränderungen der Nabelschnur.
46 *Zur Therapie der Geburt beim engen Becken (delivery with contracted pelvis). B. Wolff.
47 *Obstetric Statistics. C. J. Bucura.—Wochenbett-Statistik.
48 Zur Kenntnis der Adenomyome des Uterus. O. Nebesky.
49 *Spreading of Carcinoma in Parametrium. R. Kundrat (Wertheim's clinic, Vienna).—Ueber die Ausbreitung des Karzinoms im parametranen Gewebe bei Krebs des Collum uteri.
50 *Ueber Hyperemesis gravidarum mit Aufstellung einer neuen Intoxikations-Theorie vom Wesen der Krankheit. C. Behm (Berlin).
51 *Ueber die Bedeutung des Lig. rotundum uteri bei Herniotomien. F. Kayser (Gusserow's clinic, Berlin).

45. **Syphilitic Changes in Cord.**—Bondi found arteritis or phlebitis in the umbilical cord in 15 out of 31 cases of certain syphilis and 4 other probable cases. The process was always inflammatory with exudation. In 100 other cases, free from any taint of syphilis, no evidences of inflammation could be detected in the cord.

46. **Delivery with Contracted Pelvis.**—Wolff states that there have been 581 cases of delivery with contracted pelves during the last ten years at the Berlin Charité. In 297 the conjugata vera was 9.75 cm. or less in diameter and birth occurred with head presenting. In 99 it proceeded spontaneously, and in 161, forceps were applied; high forceps in 71 cases, 14 times ineffectually. In 51 the head had to be perforated. Prophylactic version and high forceps are valuable aids for reducing fetal mortality, but craniotomy is still indicated in certain cases. One of the patients was a woman with a conj. vera of 7.5 cm. who was delivered twelve times in the clinic. Four times craniotomy was necessary with head presentation; seven times delivery was accomplished by version and extraction. Four of the children were delivered alive.

47. **Obstetric Statistics.**—Bucura states that the total puerperal mortality in Chrobak's service among the 23,639 maternity cases for the last seven years has been 2.79 per cent. As there are from 8 to 18 births a day and only one bath tub in the receiving room the full bath has been supplanted by washing the patient with running water as she lies in a shallow tub, cleansing the external genitalia with 1 per 1,000 sublimate, never douching the vagina in healthy women. In 6,505 non-operative births, morbidity was 10.05 per cent., and mortality 1.2 per 1,000. In 161 operative cases the morbidity was 27.3 per cent. and the mortality 35.6 per 1,000. The morbidity of those examined and operated on in the clinic was 23.02 per cent. and the mortality 16.45 per 1,000, while those who had been examined before entering the clinic showed a morbidity of 32.3 per cent. and mortality of 56.1 per 1,000. Stroganoff was the first to insist on the advantages of bathing the woman under running water instead of in a full bath, and thinks that this is the cause of the reduction of his morbidity from 15 to 7 per cent. Bucura's article fills thirty-four pages.

49. **Spreading of Carcinoma of Cervix.**—Kundrat found the parametrium involved in 44 out of 80 cases in which the uterus had been removed on account of carcinoma of the collum. The connective tissue between the parametrium and the regional

lymphatic glands and the lymph passages in the connective tissue were always found intact even when the regional lymphatic glands themselves were carcinomatous. He examined 21,000 sections under the microscope and gives the particulars of the 80 cases. In 22 the parametrium was intact, and in 8 the glands were invaded while the parametrium was intact; in 18 both were involved. In only 2 were the lymphatic vessels carcinomatous.

50. **Hyperemesis Gravidarum.**—Behm suggests that this condition may be due to intoxication of the maternal blood, proceeding from the periphery of the ovum, probably of a syncytial nature. He treated 6 cases on this assumption, flushing the rectum with .6 per cent. salt solution at 28 to 30 C., using four to six quarts a day. Two were severe cases and all recovered with such promptness as to confirm him in this assumption of intoxication and relief by flushing the system.

51. **Round Ligament in Herniotomies.**—Kayser found that previously unknown retroflexion has developed after radical operations for hernia. He thinks that injury of the round ligament may have something to do with the retroflexion, and consequently advises isolating and fastening this ligament in the abdominal ring when operating for an inguinal hernia on a female subject, being careful not to shorten the ligament.

Archiv f. klinische Chirurgie, Berlin.

Last indexed page 886.

52 (LXX, No. 4.) Fetal Bone Affections. A. Silberstein.—Zur Lehre von den fötalen Knochenerkrankungen.
53 *Simple Inflammatory Strictures of Large Intestine. J. Koch.—Ueber einfache entzündliche Strikturen des Dickdarms.
54 *Internal Obstruction of Intestines. W. Philipowicz.—Ueber inneren Darmverschluss mit bes. Berücksichtigung des Volvulus der Flexura sigmoidea. (Concluded.)
55 Origin of Hygroma. O. Langemak.—Die Entstehung der Hygrome.
56 Ganglia of Palm. Franz.—Ueber Ganglien in der Hohlhand.
57 Zur Kasuistik der Thrombose und Embolie der Mesenterial-Gefässe (vessels). C. Falkenburg.
58 *Hacker's Method of Treating Fistula. F. Könlg.—Ueber Einstülpungsmethoden bei der Operation der Fistula colli congenita und die gelegentliche Anwendung bei einer Mastdarm-Fistel.
59 *Hare-Lip. T. Haymann.—Amnlogene und erbliche Hasenscharten.
60 Das neue Operations-Haus zu Altona, eine moderne chirurgische Arbeitsstätte. F. König.
61 Genuine Cysts in Long Bones. C. Beck (New York).—Ueber echte Cysten der langen Knochen.

53. **Simple Inflammatory Strictures of Large Intestine.**—One of the 3 cases described simulated carcinoma, but proved to be a cicatricial stricture resulting from a diffuse ulceration of the mucosa of the colon of unknown origin. In another case there had been suppuration in a false diverticulum with secondary stenosis of the flexure. The third case was consecutive to appendicitis. The symptoms had simulated a tuberculous intestinal trouble. The patient recovered after resection of the lesion.

54. **Intestinal Occlusion.**—Philipowicz noted volvulus of the sigmoid flexure in a third of his 98 cases of ileus observed at Czernovitz. The disturbances were due more to the strangulation induced than to the torsion *per se*. Torsion of 180 degrees was liable to cause greater disturbance if tight, than in other cases with torsion of 360 degrees. The latter was tolerated for days by certain patients without serious injury of the intestines when the strangulation was not pronounced. In 5 patients he was able to reduce the torsion by inserting the rectum tube without operative intervention. In others he succeeded in evacuating the contents of the twisted loop by this means, but the flexure became redistended, showing that the torsion still persisted and an operation became necessary. On account of the liability to recurrence he always fastens the loop after reducing the torsion so that it can not occur again. He reviews his extensive experience with ileus in detail, tabulating the cases in twelve groups.

58. **Technic of Treating Congenital Fistula of Neck.**—Kocher believes that Hacker's method of turning the end of the fistula wall over inside like the finger of a glove, and suturing the mucosa above it, is not applicable to every case on account of the difficulty of mobilizing the walls of the fistula sufficiently for the purpose. He recommends another method which is applicable to all cases. The fistula walls are mobilized as much as possible, then a large sound is inserted in the outer opening of the fistula and pushed in until it protrudes in the mouth, pushing up the mucosa in front of the lower front edge of the tonsil. The mucosa is then incised. Then the lower end of the fistula opening is fastened to the sound and drawn through with the latter into the mouth where it is sutured and cut off short. Nothing is left then of the fistula except a short, open passage under the mucosa of the mouth, passing around the tonsil, both ends opening into the mouth. He found Hacker's method useful in obliterating an incomplete internal anal fissure resulting from an abscess due to actinomycosis. He mobilized and drew out into the rectum the head of the fistula, then turned it back inside the fistula, and sutured the rectal mucosa over it. The article is illustrated.

59. **Origin of Hare-Lip.**—Haymann found the hand of the fetus in the cleft in a case described, held there by an amniotic cord formation. The child presented several other deformities. After going over the subject carefully he thinks that we have no ground for assuming an amniogenic origin for hare-lip. He also reviews the heredity of such deformities. He found heredity noted in 20 per cent. of 244 cases on record. In one family hare-lip recurred through four generations.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 887.

62 (XXXVIII, No. 3.) *Injuries of the Skull and Fate of the Injured. H. Brun.—Der Schädelverletzte und seine Schicksale. (Commenced in No. 1.)
63 *Beiträge zur Genese, Pathologie und Diagnose der Dermoid-Cysten und Teratome im Mediastinum anticum. B. Dangschat (Garrè's clinic, Königsberg).
64 Embolie und Thrombose der Mesenterial-Gefässe, Vorkommen und diagnostische Bedeutung der Purpura hemorrhagica bei der Embolie der Art. meseraica. L. Talke (ibid.).
65 Plastics of Face. H. Schloffer (Prague).—Gesichtsplastik mit Wangenverschiebung unter temporärer Aufklappung der knorpeligen Nase.
66 *Articulated Plaster Cast. V. Lieblein (ibid.).—Ueber den artikulierten Gipsverband und seine Anwendung zur Behandlung angeborener und erworbener Deformitäten.
67 *Injuries of Tongue-Shaped Process of Upper Tibial Epiphysis. C. Schlatter (Zurich).—Verletzungen des schnäbelformigen Fortsatzes der oberen Tibia-Epiphyse.
68 Recovery After Operation for Traumatic Hernia of Diaphragm. O. Riegner (Breslau).—Eine traumatische Zwerchfellhernie.

62. **Injuries of the Skull and Fate of the Injured.**—Brun's article is completed in this number. It contains 200 cuts and is a most exhaustive study of the subject from every point of view, based on 404 cases observed at Krönlein's clinic at Zurich. The primary and secondary disturbances are particularly noted, as well as the symptoms of apathy, disturbances in memory, vertigo and headache. The literature on the subject is also extensively reviewed. The cases are classified and each group is studied separately.

63. **Dermoid Cysts and Teratomata in the Mediastinum.**—Dangschat has observed 2 cases and reviews 42 others he has found in the literature. Without operation the prognosis is absolutely bad. Only 13 out of the 44 were operated on and total extirpation of the cyst was possible only once. In 3 cases the fatal termination followed soon after the intervention; in one instance it was due to hemorrhage from the mammary vein. When extirpation is not possible, the cyst should be evacuated and sutured to the skin. In 19 cases symptoms of the tumor had been noticed for two to several years. The growth is much slower than that of malignant tumors, and the latter seldom appear before the age of 30, while these tumors usually make their presence known before this age. Out of 29 cases pains in the thorax had been noted in 9, and in the shoulder, head and ear in 3. Difficulty in breathing was the most frequent symptom and sometimes the only one for years. One patient had been troubled with this symptom for 44 years, dying at 60 from the progress of the lesion. Discovery of hair in the sputum is the only pathognomonic sign. It was found early in 3 cases. In 2 there were no symptoms of any kind.

66. **Articulated Plaster Casts.**—Lieblein urges more general use of hinged plaster casts for the treatment of congenital and acquired deformities. He considers them indispensable for the treatment of club-foot, especially in adults. He describes the technic of making and applying them and gives radiograms of the progress attained.

67. Injuries of **Tongue-Shaped Process of Upper Tibial Epiphysis.**—Schlatter gives radiograms of 7 cases in which this process was injured in male subjects, all but one affecting the right side. The pain on pressure is typical. An immobilizing dressing with early massage of the muscles of the thigh will aid in the cure.

Centralblatt f. Bakteriologie, Jena.

Last indexed page 888.

69 (XXXIV, No. 1.) •Zur Differential-Diagnose einiger pathogener Bakterien-Arten. W. Omelianski.
70 •To Test Agglutination of Tubercle Bacilli. A. Köppen (Norden).—Methode für die Agglutinationsprüfung der Tub.-Bac.
71 Anaërobic Bacteria in Intestinal Affections. A. Rodella.—Zur Frage der Bedeutung anaerober Bakterien bei Darmkrankheiten.
72 •Bacteriology of Pneumonia During Whooping Cough. G. Jochmann and Moltrecht.—20 Fälle Broncho-Pneumonie bei Keuchhusten-Kindern hervergerufen durch ein influenzaähnliches Stäbchen.
73 •Yeast in Experimental Infections. R. Turro and others (Cataluna).—Die Bier-Hefe bei exp. erzeugter Streptokokken- und Staphylokokken-Infektion.
74 Zur Kenntniss einiger Trematoden. L. Cohn.
75 Neuer Fall von Dipylidium caninum beim Menschen. F. Zschokke (Basle). (Thirty-fourth case in man on record.)
76 Zur Agglutination der Staphylokokken. R. Otto.
78 Weitere Studien über das Lakto-Serum. P. T. Müller (Graz).
79 Zur Theorie der bakteriolytischen Immunität. R. Pfeiffer and E. Friedberger.
80 Einige Hände-Desinfektions-Versuche. Engels (Marburg).

69. To **Differentiate Bacteria.**—Onelianski describes a new culture medium made of phenolphthalein, sodium formate and agar. The bacteria stain differently on this medium and it is possible to differentiate readily the colon, typhoid, diphtheria and pseudodiphtheria germs.

70. To **Test Agglutination of Tubercle Bacilli.**—Köppen treats the bacilli with caustic potash solution, thus saponifying them. The stem fluid he uses for the agglutination is milky and homogeneous and does not become putrid, thus not requiring an antiseptic ingredient. After this saponification the tubercle bacilli take the stain as readily as before.

72. **Bacteriology of Whooping Cough.**—Jochmann found the *Bacillus pertussis* (Eppendorf) in 20 cases of pneumonia complicating whooping cough. As this bacterium is so similar to the influenza bacillus, he suggests that attention had better be paid to the presence of cases of influenza in the environment of children with whooping cough.

73. Yeast in **Experimental Infections.**—Turro found that yeast had an unmistakably favorable effect in cases of experimental streptococcus infection in rabbits, both local and general. He asserts that it was possible to confer temporary immunity to both streptococcus and staphylococcus infection by subcutaneous injection of the yeast.

Centralblatt f. Chirurgie, Leipsic.

81 (XXX, No. 39.) •Ogston's Operation for Club-Foot. C. Lauenstein (Hamburg).—Zu Ogston's Operation des rebellischen Klumpfusses.

81. **Club-Foot.**—Lauenstein advocates Ogston's method of enucleating the bony kernel. He finds it is easily performed but should be preceded by an *x*-ray examination. What bones are to be operated on must be determined by the operator in each individual case. It is not specially important whether the wounds of the soft part are sutured after operation or not, if sufficient portions of the bony kernel have been removed. The remedying of the condition is very easy and complete. Besides the equinus and varus types any inward bending of the foot is easily relieved. The after-treatment is notably shortened and the danger of disturbance to the growth of the foot is not to be dreaded. (The technic of Ogston's operation was described in THE JOURNAL, xxxix, p. 110, 1902.)

Centralblatt f. Gynäkologie, Leipsic.

82 (XXVII, No. 39.) Sectio cesarea und Total-Extirpation des Uterus wegen Myom, ausgführt im Januar, 1894, Heilung. K. G. Lennander (Upsala).
83 •Ein Ligamentum suspensorium fundale medium nach Ventrifixur. F. Michel.
84 •Treatment of Apparent Death of the Newly Born. W. Zangemeister.—Ueber die Behandlung des Scheintodes Neugeborener.

83. **Ligamentum Suspensorium Fundale Medium.**—Michel adopts this name proposed by Fritsch for a formation which sometimes follows ventrofixation of the uterus, viz., a fibrous cord extending between the fundus and the parietal peritoneum. In the course of years this may reach several centimeters in length, and he gives an account of a case, with illustration, where it was 15 cm. long. He remarks that such a condition may have uncomfortable results for the patient, as was the fact in the case reported, and recommends that in ventrofixation one should not make a limited attachment of the fundus to the peritoneum, but make a much more thorough fixation.

84. **Treatment of Apparent Death of the Newly-Born.**—Zangemeister remarks that the attempts to apply the inhalation of oxygen as a therapeutic measure have not been very satisfactory as a general thing, but there is one condition in which it is proving extremely valuable. This is in severe asphyxia neonatorum. The almost invariable success and the rapidity of its action, with no inconveniences, render it a most valuable aid in this emergency. He uses a thin-walled rubber bulb filled from a small portable tank of compressed oxygen. The oxygen is forced through a tracheal catheter into the infant's lungs by gentle, regular pressure on the bulb. When the lungs have become distended he applies gentle external pressure to the thorax. The air escapes along the outside of the catheter, which must be of small diameter to allow this. The lungs are then inflated again by gentle pressure on the bulb and emptied as before, and these procedures are repeated continuously as long as required. The prompt reddening of the skin shows the favorable action of the oxygen. It can be applied while the infant is in a warm bath. The narcosis from carbon dioxid is dispelled in this way more rapidly than by any other means and the stimuli applied become more promptly effectual.

Monatsschrift f. Geb. und Gynäkologie, Berlin.

Last indexed XL, page 1405.

85 (XVII, No. 5.) Causes of Increased Blood Pressure During Childbirth. H. Schroeder.—Ursachen der Blutdrucksteigerung während der Geburt.
86 •Apparent Extra-uterine Gestation in a Rabbit. K. Kamann (Greifswald).—Scheinbare Bauchträchtigkeit bei einem Kaninchen.
87 •Zur Prophylaxie der Gynatresie. L. Pincus (Dantsic).
88 •Vaginale Total-Exstirpation ohne Narkose. R. Gradenwitz (Breslau).
89 •Kastration wegen funktionierender Ovarien bei rudimentärer Entwicklung der Müller'schen Gange. Ibid.
90 •Beitrag zur Publotomie nach Gigli. P. Baumm (Breslau).

86. **Apparent Extra-uterine Gestation in a Rabbit.**—In Kamann's rabbit the placenta was found attached to the greater omentum with a long twisted pedicle of omentum tissue and vessels. He considered it a case of abdominal gestation and as such exhibited the specimen at his local medical society. Further investigation, however, revealed a cicatrix in the wall of the uterus and evidences that the uterus had been the original seat of the fetus but that the latter had escaped into the abdominal cavity in consequence of rupture of the uterus, still enclosed in its intact membranes, and that a connection between the latter and the omentum had occurred secondarily.

87. **Prophylaxis of Gynatresia.**—Pincus thinks that the vagina may become obliterated or obstructed in consequence of gonorrheal infection during birth or during other severe infections later in which the vaginal mucosa may share in the inflammation. He advocates systematic investigation of the permeability of the vagina in new-born infants. It can be done with the sound in the absence of gonorrhea, and in case of the latter infection the vulva and vagina should be appropriately treated. The pains and tempestuous onset of menstruation in case of gynatresia may entail a severe shock to the nervous system. He adds that it is important to instruct growing girls approaching menstruation and to inquire after children's diseases in persisting amenorrhea. In molimina with vicarious hemorrhage and in case of preceding severe disease, he urges careful examination for possible gynatresia. Stagnating blood may prove a culture medium for germs and the source of virulent infection later.

88. **Vaginal Pan-Hysterectomy Without Narcosis.**—Gradenwitz reports 3 cases of total extirpation without narcosis. One was on account of retroflexio with obstinate hemorrhage, phthisis and anemia; another for total prolapse of the uterus and vagina in a subject with a large struma, and the third

on account of carcinoma of the portio accompanying severe degeneration of the heart. The latter patient succumbed in shock. The only painful steps in the operation were the ligation of the lower parts of the broad ligaments and tubes. In one case anesthesia of the broad ligaments was first induced with Schleich's solution, and in another it was used for the plastics of the perineum. He injected a syringeful of 1 per cent. morphin fifteen minutes before operating.

89. **Functioning Ovaries with Rudimentary Development of Mueller's Duct.**—Gradenwitz relieved a patient who suffered from violent pains every four weeks, without further evidences of menstruation, by ablation of the rudimentary uterus bicornis and ovaries, the latter being in cystic degeneration. Complete recovery. In 23 similar cases on record all were cured by operation, with 2 exceptions, one succumbing to sepsis.

90. **Adverse Criticism of Gigli's Pubiotomy.**—Baumm followed Gigli's technic for extramedian symphyseotomy in 2 cases and his experience was very unfavorable. The bleeding was more severe than in cases operated on in the mons veneris, and in both instances the vagina and bladder were lacerated. The abundance of blood in the cut ends of the bones also complicated the wound. Both patients succumbed to sepsis.

Münchener Med. Wochenschrift, Munich.

91 (L, No. 38.) *Frequency of Carcinoma in Munich. O. Bollinger.—Ueber die Häufigkeit des Karzinoms in München.
92 *2 neue Fälle von Acanthosis nigricans. O. Hess.
93 *Die Prophylaxe der postoperativen Cystitis. K. Baisch.
94 *Radioscopy of Movements of Stomach and Intestines and Their Modification by Various Influences. F. Lommel (Matthes' clinic, Jena).
95 Roentgen-Befund nach Iodipin-Injektionen. M. Landow.
96 Baker's Acne. Galewsky.—Ueber Bäcker-Akne.
97 *Zur Behandlung des Abortus. M. Nassauer.
98 *New Centrifuging Tube. Napp (Duisburg).—Ein neues 2-theiliges Zentrifugenröhrchen.
99 Six at One Birth. H. Vortisch.—Afrikanische Sechslinge.
100 *Study of Heredity. E. Schwalbe.—Das Problem der Vererbung in der Pathologie. (Commenced in No. 36.)

91. **Cancer Statistics at Munich.**—Bollinger's statistics for fifty years show that the proportion of deaths from cancer has paralleled the growth of the population and not exceeded it as in most cities. He mentions as an argument against the assumption of an infectious origin for cancer the rarity of its occurrence under the age of 15. This is directly the opposite of what is observed in case of infections in general.

92. **Acanthosis Nigricans.**—The 2 cases reported from Marburg by Hess bring the number on record to 40. Treatment has been only symptomatic to date except in Spietzka's patient, the ablation of a malignant deciduoma being followed by complete subsidence of the affection in this case.

93. **Prevention of Postoperative Cystitis.**—Baisch describes the method of preventing postoperative cystitis which has been adopted at Döderlein's clinic at Tübingen with complete success. He defines the affection as a bacterial inflammation of the bladder developing consecutive to operations in which the innervation or nutrition of the bladder has suffered and catheterization is necessary. It is impossible to prevent the entrance of germs in all cases, and it is likewise impossible to refrain from injury to the bladder in many instances. The use of the catheter is avoided to the utmost possible extent, but if absolutely required, the bladder is stimulated to extra secretion by injection of glycerin. The evening after the operation, if the patient has not urinated spontaneously, he injects 20 c.c. of a 2 per cent. glycerin solution of boric acid. A Nélaton catheter is first introduced, and as soon as the first drops of urine make their appearance the syringe is applied and the borated glycerin slowly injected into the full bladder. Usually in less than five to ten minutes the patient experiences a desire to urinate spontaneously, and the evacuation of the bladder is not followed by any after-effects. No inconveniences have been observed in any case. It was not necessary to repeat the injection except in the rarest cases, generally after anterior colporrhaphy. The bladder is injured to such an extent in a Wertheim abdominal operation for cancer of the uterus that it is not able to respond to this stimulus. In these cases the inevitable catheterization is followed each time by rinsing out the bladder with 500 c.c. of a 3 per cent. solution of boric acid. By these prophylactic measures postoperative cystitis has been warded off in nearly every instance. If no effect is derived from the glycerin injection, it is followed in an hour by catheterization with the disinfecting rinsing immediately afterward. The rinsing procedure should be repeated as long as the catheter is needed, until urination has become spontaneous and complete.

94. **Radioscopy of Peristalsis.**—Lommel describes his experiments with docile dogs fed with chopped meat mixed with bismuth and fastened so that the *x*-rays could be passed through them at the most convenient angle. Two minutes after ingestion of milk rhythmic wave movements could be seen in the greater curvature. Ten complete peristaltic waves almost invariably corresponded to 120 seconds in all the animals. The latter were not fatigued nor pathologic from application of fistulas, etc., so that the peristalsis observed could be regarded as entirely normal. Application of warmth to the stomach and abdomen did not materially modify the number or velocity of the waves, but it was noted that the waves were smaller at the beginning than in the control animals. The pylorus opened a little earlier in some of the animals that had been treated with warmth, than was noticed in the controls. Application of cold had no appreciable effect on the movements of the stomach nor on the opening of the pylorus. Administration of somatose accelerated the stomach digestion, increasing the rhythm so that ten waves were counted in 105 to 110 seconds, instead of in the normal 120. Meat extracts had a similar but even more pronounced action, accelerating the rhythm to ten waves in 100 seconds. Whether this stimulation of the rhythm means an actual acceleration of the stomach digestion is not revealed by the *x*-rays. So much bismuth clings to the walls of the viscus that the final evacuation of the stomach passes unperceived. His researches established another point, namely, that emotion, psychic factors, have a far greater influence on the stomach peristalsis than physical or chemical factors. Again and again he witnessed that animals not accustomed to laboratory maneuvers, which were frightened and depressed, did not show any signs of waves nor evacuation of the stomach, sometimes for two and three hours, but so soon as they were released, marked peristalsis could be seen, soon followed by the emptying of the stomach. Docile, trusting animals showed peristalsis in less than ten minutes after the experiment was commenced, the stomach emptying in forty to fifty minutes. By intentionally annoying or depressing the docile, well-trained animals, it was possible to delay or completely arrest the stomach peristalsis, delaying the emptying of the stomach past two or three times the normal period of digestion. He thinks these results demonstrate that the human stomach is capable of being profoundly influenced through the psyche, probably more profoundly than by many of our therapeutic measures. Interesting phenomena were noted in respect to the intestinal peristalsis. The *x*-rays showed unmistakable antiperistaltic movements, and a distinct periodicity in the emptying of the stomach and the peristaltic movements of the intestines. During the pauses after energetic peristalsis the emptying of the stomach was also temporarily suspended, the stomach resting with the intestines and resuming activity with them.

97. **Treatment of Abortion.**—Nassauer illustrates a forceps for emptying the uterus in case of abortion, which he claims can be used by the general practitioner without fear of injury. The tips form thick, oval spoons, the edges of which are so broad and rounded that perforation of the uterus wall is impossible.

98. **Two-Part Centrifuging Tube.**—Napp's tube is shaped like the ones ordinarily in use, but the tapering end below is cut off a short distance from the point and a cap of the same size fits tightly over it. The fluid above can be poured off after centrifuging and the cap below removed. Even the smallest amount of sediment can then be easily taken out of this conical cap.

100. **The Problem of Heredity in Pathology.**—Schwalbe reviews recent researches and theories, and remarks that ex-

periences in pathology so far afford no data for the assumption of inheritance of acquired properties. Neither do they sustain Weismann's theory, or rather they do not confirm it. Its proof must be sought in other sources than pathology; it is neither overthrown nor confirmed by what we know of pathologic heredity.

Riforma Medica, Palermo.

101 (XIX, No. 38.) **Hemolytic Property of Extracts of Organs and Malignant Tumors.** F. Micheli and M. Donati (Turin).—Sulle proprieta emolitiche degli estratti di organi e di tumori maligni.

Russkii Vratch, St. Petersburg.

Last indexed page 818.

102 (II, No. 9.) *Diagnosis of Catarrhal Form of Pyelitis. A. P. Favitzky and V. Orlovsky.—K rasposnavaniu catarrh. form vospaleniya potchetchnykh lokhanok. (Commenced in No. 8.)

103 *Differential Value of Oliver's Sign in Aneurism of Aorta. P. I. Drozdovsky.—Rasposnavatelnoe znatchenie prisnaka Oliver'a pri aneurismakh grudnoi tchasti aorty. (Concluded from No. 8.)

104 Bacteriologic Differentiation of Typhoid. Z. F. Orlovsky.—K. bakt. rasposnavaniyu briushnogo tipha.

105 (No. 10.) Abdominal Massage. V. A. Stange.—O massagye zhevota.

106 *Heredity of Cancer. V. N. Geinatz.—O naslyedstvennosti raka. (Concluded.)

107 *Transitional Forms of Rheumatism and Pyemia. A. A. Byelogolovy.—K voprosu o porubezhynkh formakh mezhdu reumatizmom i gnoekroviem.

108 (No. 11.) Accuracy and Technic of Ehrlich's Method of Testing Diphtheria Serum. S. V. Korshun.—Ehrlich'obskii sposob i ego teroretitcheskiya osnovaniya.

109 (No. 12.) *Clinical Studies of Amyloid Kidney. A. P. Favitzky.—Iz klinitcheskikh nabliudenii nad amiloidom potchek.

110 *Operation for Retroflexed Uterus. C. A. Alexandroff.—Operatziya retrofleksii matki.

111 *Artificial Fertilization of Mammals. E. E. Ivanoff.—Iskusstvennoe oplodotvorenie mlekopitayushtchikh.

112 (No. 13.) Mnimaya malosposobnosti k utcheniu pri Astigmatism glaz. R. A. Katz.

113 Is Leprosy Contagious? M. A. Tchlenoff.—Zarazitelna-li prokaza?

114 *New Parasite from Sarcomatous Tumor in Stomach. G. S. Kulesh.—O novom tchuzheyadnom iz sarcomatoznoi opukholi zheludka.

115 Instrumental Dilatation of Uterus. D. I. Konteff.—K voprosu ob iskusstvennom raskryvanii matki.

116 Study of Influence of Electric Baths on Pulse, Temperature, etc. A. P. Rozen.—P voprosu o vliyanii eletritcheskikh svyeto-teplovykh i tchisto-svyetovykh vann na sostav krovi, etc., zdorovnykh liudi.

117 (No. 14.) *Alkalinity of Blood in Leucocytosis and Infections. V. F. Orlovsky.—Shtchelotchnost krovi pri sostoyaniakh leuc., etc.

118 General Remarks on Surgical Treatment of Uterine Myomata. D. A. Abuladze.

119 (No. 15.) Obsessions and Impulsive Actions. S. A. Sukhanoff.—Navyaztchivya mysli i impulsivniya dyestviya. (In French, paragraph 39 above.)

102. **Diagnosis of Catarrhal Form of Pyelitis.**—Favitzky reviews the details of 14 cases of catarrhal pyelitis, endeavoring to prove that it is possible to differentiate this form of kidney affection from others. The pains, composition of the urine, variations in the sediment and specific gravity are not pathognomonic, but they suggest the catarrhal form as they continue with periodical febrile exacerbations and periodical changes in the urine.

103. **Differential Value of Oliver's Sign in Aneurism of Aorta.**—This sign is the upward movement of the larynx, synchronous to the cardiac systole, which Oliver announced was encountered in subjects with aneurism of the arch of the aorta. Drozdovsky states that he noted this sign in a number of cases of aneurism of the aorta, but found it equally marked when the aneurism was located at other points of the thoracic aorta than the arch. He gives the clinical history of 9 cases.

106. **Heredity of Cancer and Trauma as a Factor.**—Geinatz rejects the theory that cancer can be inherited. He found no history of cancer in the family in 192 out of 210 cancer patients. Only 18, that is, 8.6 per cent., reported previous cases of cancer in the family, and in only 7 of these the father was mentioned and in 1 the mother. In the other 10, more distant relatives had been the cancer subjects. In only 2 did the cancer affect the same organ as in the other member of the family. In 3 cases cancer had occurred several times in the same family. [In an article recently published in the *Vratchebnaya Gaseta*, Nos. 13-16, Geinatz announces that among 1,906 cases of various neoplasms he found there had been a preceding trauma at the spot in 233 cases. The largest proportion of tumors with a history of preceding trauma was observed in the neuromata, 38.5 per cent. of which had followed a trauma. In the 233 cases of tumors with preceding trauma, sarcomata took the lead with 20.3 per cent.; then came carcinomata with 15.1 per cent.; the mixed neoplasms, chondromata, endotheliomata and myxomata, with 8.6 per cent., and lastly, the benign neoplasms with 5.4 per cent. The trauma had been single in 87.9 per cent., and the skin had not been broken in 27.4 per cent. of the total number of cases of cancer. The interval between the trauma and the first signs of the cancer ranged from six weeks to two years in the 75 cases in which this point could be ascertained, with 9 exceptions in which the interval was longer than two years. In the 716 cases of benign tumors, preceding trauma was noted in 5.4 per cent., and in 92.4 per cent. of these the trauma had been single. In 30.7 per cent. there had been solution of continuity. He thinks that these facts indicate that trauma certainly affords a predisposition for tumor formation, although it does not of itself cause the subsequent neoplasm.—ED.]

107. **Transitional Forms of Rheumatism and Pyemia.**—Byelogolovy regards articular rheumatism as a mild form of pyemia, and cites a number of instances of transitional forms to sustain this assumption.

109. **Amyloid Kidney.**—Favitzky concludes in this number his comprehensive study of 7 cases of amyloid kidney. He gives in tabulated form the various symptoms and condition of the organs. The liver and spleen were enlarged in some and not in others. The amount of urine in 3 cases averaged 2,300, 3,700 and 1,900 c.c. in the twenty-four hours, and in the others ranged from 200 to 1,000 c.c. Albuminuria was noted in all, averaging 2.5 to 3.2 per cent.

110. **Operation for Retroflexed Uterus.**—Alexandroff puts a suture through the rear edge of each broad ligament a short distance from its attachment to the uterus. He then draws the edges together over the uterus and fastens them in contact with a stitch above and below. The results in 4 cases have been excellent. He illustrates his technic.

111. **Artificial Fertilization of Mammals.**—Ivanoff's experiments were conducted at first on guinea-pigs, rabbits and dogs, but proved so successful that he included horses and cows in his research as also sheep, mice and birds. The results have established the possibility of fertilizing mammals with semen in an artificial medium entirely free from the secretions of the male sexual accessory glands (prostate, seminal vesicles, etc.). The practical results of this research have already been adopted to some extent in stock-raising in Russia. Most remarkable results have been obtained in this way in cross-breeding and the production of hybrids. He has found that the psychic condition of the female animal and the excitement connected with copulation have nothing to do with successful conception nor with the determination of the sex of the offspring. In fact, conception occurs more regularly with artificial than with natural fertilization when it is systematically conducted, utilizing the most favorable seasons of the year and the heat of the animals. Every one of his experiments on horses in the spring of 1901 resulted positively. Artificial fertilization is thus a powerful means of combating sterility in brood animals. The spermatozoa are equally lively and capable of fertilizing the ovum whether they are suspended in the secretions of the prostate and seminal vesicles or in physiologic salt solution or in Locke's fluid or in any weak alkaline solution. The spermatozoa retain their fertilizing power for twenty-four hours after the death of the animal. It is not necessary to introduce them directly into the cervix; a large number of experiments resulted positively with the spermatozoa placed merely in the vagina. The young conceived and born under these conditions developed normally in every respect, without the slightest apparent deviation from the standard type.

114. **New Parasite Found in Sarcoma in Stomach.**—Kulesh describes a sporozoön to which he ascribes etiologic importance, He gives good illustrations of it and shows that it develops at the expense of the juices and tissues of its host, with an extracellular and intracellular dual life cycle.

117. **Alkalinity of Blood in Leucocytosis and Infections.**—Orlovsky's comprehensive researches on dogs and human beings, sick and well, all resulted negatively, confirming his previous announcements that the alkalinity of the blood is not proportionate to the number of white corpuscles, but is an almost constant phenomenon through the most diverse conditions, varying very slightly from normal at any time. The only exceptions to this rule are in advanced stages of cachexia from cancer, uremia or diabetes. The blood retains its normal alkalinity during infections until they become very virulent, when it gradually declines, usually an almost agonal phenomenon.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and the Kindred Branches, Including Much Collateral Information of an Encyclopedic Character, Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A.M., M.D., Editor of the "American Pocket Medical Dictionary." Third Edition, Revised and Enlarged. Flexible Leather. Pp. 798. Price, $4.50 net; with Thumb Index, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

PHYSICS AND INORGANIC CHEMISTRY. A Manual for Students and Practitioners. By Alexius McGlannan, M.D., Associate Professor of Physiologic Chemistry, Instructor in Clinical Laboratory, College of Physicians and Surgeons, Baltimore, Md. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia at the New York Polyclinic Medical School and Hospital. Illustrated with 20 Engravings. Cloth. Pp. 216. Price, $1.00. Philadelphia and New York: Lea Brothers & Co.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Fourth Edition, Revised and Enlarged and Entirely Reset. Fully Illustrated; a Number in Colors. Cloth. Pp. 629. Price, $3.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. With 394 Text Illustrations, Many in Colors, and 7 Full-page Colored Plates. Fourth Edition, Revised and Enlarged. Cloth. Pp. 933. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. With 746 Illustrations; 39 of Them in Colors. Fourth Edition, Revised and Enlarged. Cloth. Pp. 900. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA (State Board of Health). Organized 1847. Meeting of 1903. Talladega, April 21-24. Cloth. Pp. 553. Montgomery, Ala.: Brown Printing Company. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Oct. 3, 1903:

Borden, William C., major and surgeon, is detailed to represent the Medical Department of the Army at the annual meeting of the Mississippi Valley Medical Association, to be held at Memphis, Tenn., October 7, 8 and 9.

Glennan, James D., major and surgeon, in addition to his present duties, is detailed as professor at the Army Medical School in Washington, D. C.

Miller, Reuben B., first lieut. and asst.-surgeon, now at San Francisco, is relieved from further duty in the Division of the Philippines, and will report to the commanding general, Department of California, for assignment to duty.

Patton, Irvine W., first lieut. and asst.-surgeon, is relieved from further duty in the Division of the Philippines and from temporary duty at the Presidio, and will proceed to Fort Hamilton for duty, to relieve First Lieut. Walter D. Webb, asst.-surgeon, who will proceed to West Point, N. Y., and report at the U. S. Military Academy for duty.

Rafferty, Ogden, major and surgeon, will proceed from San Francisco to Seattle, Wash., and make a sanitary inspection of the transport *Dix*.

Truby, Willard F., first lieut. and asst.-surgeon, will proceed to West Point, Ky., and report to Major-General J. C. Bates for duty, and, on the completion thereof, will return to his proper station.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Oct. 10, 1903:

Surgeon T. W. Richards, commissioned surgeon, with rank of lieutenant-commander, from March 3.

Asst.-Surgeon B. L. Wright, ordered to the Naval Hospital, Pensacola, Fla.

A. A. Surgeon F. A. Richardson, appointed acting assistant surgeon, with rank of lieutenant, junior grade, from September 29.

A. A. Surgeon W. N. McDonnell, ordered to the Naval Academy.

Surgeon D. N. Carpenter, commissioned surgeon, with rank of lieutenant-commander, from March 3.

Surgeon E. J. Grow, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Mohican*.

Asst.-Surgeon C. N. Fiske, detached from the *Mohican* and ordered home to await orders.

A. A. Surgeon L. H. Schwerin, detached from the *Southery* and ordered to the *Yankton*.

A. A. Surgeon J. T. Miller, detached from the Navy Yard, Mare Island, Cal., and ordered to the Naval Hospital, Mare Island, Cal.

Pharmacist J. Cowan, detached from the Naval Magazine, Iona Island, N. Y., and ordered to Washington, D. C., for examination for retirement and then home to wait orders.

Surgeon E. H. Marsteller, detached from the *Panther* and ordered home to wait orders.

P. A. Surgeon J. C. Thompson, ordered to additional duty at the Navy Yard, Puget Sound, Washington.

P. A. Surgeon W. H. Bell, detached from the *Yankton* and ordered to the Navy Yard, Portsmouth, N. H., for additional duty on the *Southery*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 10, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Sept. 27-Oct. 3, 3 cases.
California: Los Angeles, Sept. 20-26, 8 cases.
Illinois: Belleville, Sept. 27-Oct. 3, 3 cases.
Maine: Grant Isle, Oct. 2, 3 cases; Madawaska township, Oct. 2, 5 cases; Van Buren, Oct. 2, 2 cases.
Massachusetts: Cambridge, Sept. 27-Oct. 3, 1 case; Taunton, Sept. 27-Oct. 3, 2 cases.
Michigan: Port Huron, Sept. 27-Oct. 3, 3 cases.
Mississippi: Natchez, Sept. 20-26, 1 case.
Missouri: St. Louis, Sept. 29-Oct. 5, 1 case.
New York: Niagara Falls, Sept. 27-Oct. 3, 1 case.
Ohio: Dayton, Sept. 27-Oct. 3, 2 cases; Lorain, Sept. 27-Oct. 3, 1 case.
Pennsylvania: Altoona, Sept. 27-Oct. 3, 4 cases, 1 death.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 1 case.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Sept. 12-19, 3 cases.
Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 124 cases, 64 deaths.
Belgium: Brussels, Sept. 12-19, 1 death.
Canada: Quebec, Sept. 27-Oct. 3. 1 case.
Chile: Antofogasta, July 25-31, 20 cases, 9 deaths.
France: Paris, Sept. 12-19, 1 death.
Great Britain: Birmingham, Sept. 12-26, 15 cases, 1 death; Glasgow, Aug. 31-Sept. 25, 1 case; Leeds, Sept. 12-26, 24 cases; Liverpool, Sept. 12-26, 6 cases, 2 deaths; London, Sept. 12-26, 8 cases, 2 deaths; Newcastle-on-Tyne, Sept. 12-19, 16 cases.
Italy: Catania, Sept. 10-17, 1 death.
Mexico: City of Mexico, Sept. 13-27, 6 cases, 3 deaths.
Netherlands: Amsterdam, Sept. 20-26, 4 cases.
Russia: Moscow, Sept. 5-12, 2 deaths.
Straits Settlements: Singapore, Aug. 16-22, 1 death.
Turkey: Constantinople, Sept. 7-20, 3 deaths; Smyrna, Sept. 7-20, 118 deaths.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Sept. 28-Oct. 7, 105 cases, 2 deaths; Minera, to Oct. 3, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 1 case.
Colombia: Panama, Sept. 21-28, 2 cases, 1 death.
Costa Rica: Limon, Sept. 18-24, 6 cases, 5 deaths.
Mexico: Nuevo Laredo, Sept. 30, 12 cases, 9 deaths; Progreso, Sept. 20-27, 1 case; Vera Cruz, Sept. 20-26, 49 cases, 17 deaths.
Venezuela: Maracaibo, July 5-11, 1 case, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 29 cases, 22 deaths; provinces, Aug. 16-22, 5,663 cases, 3,811 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Aug. 29-Sept. 5, 8 deaths; Madras, Aug. 22-Sept. 5, 5 deaths.
Straits Settlements: Singapore, Aug. 8-22, 11 deaths.
Turkey: Syria, Birejik, Sept. 24, prevailing.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 16-22, 4 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 42 cases, 20 deaths.
Chile: Iquique, Aug. 21-28, 14 cases, 8 deaths.
Egypt: Alexandria, Aug. 29-Sept. 4, 6 cases, 4 deaths.
Japan: Yokohama, Aug. 22-29, 1 case, 1 death.
Mauritius: July 17-Sept. 3, 111 cases, 55 deaths.
Turkey: Smyrna, Sept. 29, 1 death.